



bcuc
British Columbia
Utilities Commission

Patrick Wruck
Commission Secretary

Commission.Secretary@bcuc.com
bcuc.com

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

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Sent via email/eFile

CORIX REVENUE REQUIREMENTS AND RATES FOR DOCKSIDE GREEN EXHIBIT A-3
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Mr. Ian Wigington
Regulatory Advisor
Corix Multi-Utility Services Inc.
Suite 1160-1188 West Georgia Street
Vancouver, BC V6E 4A2
Ian.Wigington@corix.com

Re: Corix Multi-Utility Services Inc. – Revenue Requirements and Rates Application for the Dockside Green Energy Utility – Project Number 1599003 – BCUC Information Request No. 1

Dear Mr. Wigington:

Further to your April 1, 2019 filing of the above-noted application, enclosed please find British Columbia Utilities Commission Information Request No. 1. In accordance with the regulatory timetable established by Order G-97-19, please file your response on or before Tuesday, July 9, 2019.

Sincerely,

Original signed by:

Patrick Wruck
Commission Secretary

SW/dg
Enclosure

cc: Travis Hickford-Kulak
Vice President Contract Utilities and Energy Systems
travis.kulak@corix.com

Frank Durnford
Senior Legal Counsel
frank.durnford@corix.com



Corix Multi-Utility Services Inc.
Revenue Requirement and Rate Application for the Dockside Green Energy Utility

INFORMATION REQUEST NO. 1 TO CORIX MULTI-UTILITY SERVICES INC.

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A. GENERAL

- 1.0 Reference: GENERAL**
Exhibit B-1 (Application), p. 2; Appendix 3; Order G-247-18; Corix and Dockside Green Energy LLP (DGE LLP) Application for Approval of the Transfer of Partnership Interests in DGE to Vancity Capital Corporation and Dockside Green Limited Partnership (DGLP) and Subsequent Sale and Disposition of DGE Utility Assets to Corix proceeding, Exhibit B-2, BCUC IR 11.10
Interim Rates and Tariff Terms and Conditions

Pursuant to Order G-247-18, the British Columbia Utilities Commission (BCUC) approved Corix Multi-Utility Services Inc.'s (Corix) application for interim rates for the Dockside Green Energy utility (DGE) effective January 1, 2019. The approved interim rates consisted of a fixed charge of \$0.29 per square metre per month and a variable charge of \$0.0623 per kilowatt hour (kWh).

In Table 1 on page 2 of the Application, Corix shows the proposed permanent 2019 rate for DGE which consists of a monthly basic charge of \$0.369 per square metre per month and a variable energy charge of \$0.051 per kWh.

- 1.1 If the proposals contained in the Application are approved and rates are made permanent for 2019, please explain how Corix proposes to treat the difference between interim and permanent rates for 2019. Please provide supporting calculations where appropriate.

In response to BCUC Information Request (IR) 11.10 in the Corix and DGE LLP Application for Approval of the Transfer of Partnership Interests in DGE to Vancity Capital Corporation and DGLP and Subsequent Sale and Disposition of DGE Utility Assets to Corix (Sale of DGE Assets) proceeding, Corix stated the following:

Corix is not intending to amend the DGE Terms and Conditions of Service and Rate Schedules at this time. Amendments to these documents will be filed for Commission review and approval with the next revenue application.

In Appendix 3 to the Application, Corix provides its terms and conditions of customer service to DGE.

- 1.2 Please identify and describe any differences between Corix's tariff terms and conditions and DGE LLP's tariff terms and conditions for service to DGE customers.

B. PROJECT NEED, ALTERNATIVES AND JUSTIFICATION

- 2.0 Reference: PROJECT NEED, ALTERNATIVES AND JUSTIFICATION**
Exhibit B-1, Section 2, pp. 10-11, 14; Sale of DGE Assets proceeding, Exhibit B-1, pp. 3-4
Project History and Alternatives

On page 10 of the Application, Corix states the following:

Corix is requesting BCUC approval for the revenue requirements and associated rates in support of the utility's proposal to install three (3) high efficiency condensing natural gas boilers and to maintain the existing Cleaver-Brooks natural gas boiler for system back-up and redundancy.

Corix also states the following on page 10 of the Application: "The existing boiler is approximately 10 years old, and was originally sized to provide peaking and back-up at full build out."

- 2.1 Please provide the remaining useful life of the existing Cleaver-Brooks natural gas boiler.
- 2.1.1 Notwithstanding the above response, has Corix updated the remaining useful life of the existing Cleaver-Brooks natural gas boiler to reflect the proposed change in use? Please explain why or why not.

On page 3 of the Sale of DGE Assets application, Corix stated the following:

Subsequent to the transfer of the partnership interests of FAES [FortisBC Alternative Energy Services Inc.] and CUI [Corix Utilities Inc.] to Vancity and DGLP, respectively, pursuant to the Asset Purchase Agreement dated April 25, 2018...Corix will acquire all utility assets of DGE for \$1.00 and the rate base and deferral accounts of the utility will be set to \$1.00.

- 2.2 Please confirm, or explain otherwise, that the Cleaver-Brooks natural gas boiler has a zero NBV for the purposes of its inclusion in the DGE rate base given that all of the DGE utility assets were transferred to Corix at a value of \$1.00.

On page 10 of the Application, Corix states the following:

Under the proposed disposition of equipment from TEC1 [Temporary Energy Centre 1], significant cost savings are achieved for DGE customers, and UniverCity customers of BMDEU [Burnaby Mountain District Energy Utility] receive fair compensation for an asset that is no longer required to provide energy service.

- 2.3 Please explain if the TEC1 assets at BMDEU are still currently in operation, or if they have already been disconnected and are not in use.
- 2.3.1 If the TEC1 assets are no longer in operation, how long have they not been in use, and are there any issues that could arise by re-installing them and using them after a period of inactivity? Please discuss in detail.
- 2.4 Please provide the remaining useful life of each of the TEC1 assets proposed to be transferred from the BMDEU.
- 2.5 Please provide a detailed description of the TEC1 assets' maintenance and repair history.
- 2.5.1 As part of the above response, please indicate if there have been any issues encountered with the assets and if any unplanned maintenance/repairs have been performed. If yes, please explain the impact that such issues may have on the assets' ability to meet performance requirements for the DGE customers.
- 2.6 Please explain in detail the planned process for transporting the TEC1 assets from BMDEU to DGE, including any risks associated with the transportation process and how Corix intends to mitigate these risks.
- 2.7 Please provide a detailed description and breakdown of the transportation and installation costs associated with the TEC1 assets. As part of this response, please explain who is proposed to pay these costs (i.e. DGE ratepayers, BDMEU ratepayers or Corix) and why this is appropriate.
- 2.7.1 If Corix proposes to recover the above costs from DGE ratepayers, please explain where these costs have been recorded.

On page 11 of the Application, Corix states the following:

An option originally considered by Corix was to install two new smaller high efficiency

natural gas boilers to replace the existing large Cleaver-Brooks boiler and thereby increase energy system efficiency as well as service reliability through redundancy. While this achieves similar benefits to the proposed repurposing of equipment from TEC1, the associated costs with this option are significantly higher (in excess of \$2 million) which puts pressure on customer rates and increases the potential for large deferral balances.

On page 4 of the Sale of DGE Assets application, Corix stated the following:

...Corix intends to prepare and make an application to the Commission for approval of revenue requirements and rates associated with new capital to repower the central energy facility, replacing the existing single natural gas boiler with two smaller natural gas boilers, with a provision to add a third boiler in the future...In addition to increasing efficiencies, the reconfiguration provides major production equipment redundancy that enhances overall system reliability and availability.

- 2.8 Please explain, with reference to the statements made on page 4 of the Sale of DGE Assets application, if Corix had intended to use the Cleaver-Brooks natural gas boiler for system back-up and redundancy as part of its proposal in that application.
- 2.8.1 If no, please explain why not and explain why Corix now proposes to use the Cleaver-Brooks natural gas boiler for system back-up and redundancy.
- 2.9 Please explain why Corix is proposing to transfer all three of the TEC1 boilers, while the option to purchase new equipment would only result in the purchase of two boilers.
- 2.9.1 Please provide the difference in redundancy between the following options: (i) the option described in the Sale of DGE Assets application; (ii) the proposed option in the Application; and (iii) only installing two of the TEC1 boilers and using the Cleaver-Brooks boiler for system back-up and redundancy.
- 2.9.2 If the proposed option in the Application results in a greater level of redundancy, please explain why this level of redundancy is considered reasonable.
- 2.10 Please explain if all three of the TEC1 boilers are required to serve DGE customers at this time. As part of this response, please reference the statements in the Sale of DGE Assets application regarding adding a third boiler in the future.
- 2.10.1 If all three boilers are not required at this time, please explain when Corix anticipates the third boiler would be required.
- 2.10.2 If all three boilers are not required at this time, please explain why it is appropriate to add all three boilers to the DGE rate base at this time.
- 2.10.3 If all three boilers are not required at this time, by installing all three boilers at this time, does Corix risk losing any upside from the potential availability of newer, more efficient technologies being available in the medium term (i.e. years 2023 onwards)? Please discuss.
- 2.11 What would the useful life of the two new boilers (i.e. the alternative option described on page 11 of the Application) be compared to the remaining useful life of the TEC1 boilers?
- 2.11.1 Please discuss if the difference in useful life, and the likely need to replace the TEC1 assets sooner than if new boilers were purchased, was a consideration for Corix when selecting the preferred alternative.
- 2.12 Please provide a high level 30-year net present value (NPV) analysis of the option to purchase two new boilers compared to the preferred option of utilizing the TEC1 boilers. Please specifically identify when (i.e. what year(s) in the 30-year analysis period) the requirement to

purchase new boilers would likely occur under the proposed option. Please also include and specify the details of any major maintenance that is expected to occur for each option during this 30-year period, including timing, cost, and scope.

2.12.1 Based on the above NPV analysis, please explain which option is preferable and why.

2.13 If Corix's application to dispose of the TEC1 assets at the BMDEU and transfer the assets to DGE is approved, please explain when the TEC1 assets are planned to be installed and in-service for use by DGE.

2.14 Please explain whether the additions to rate base related to the TEC1 assets appropriately reflect the timing of the in-service date of these assets. As part of this response, please provide the revenue requirement amounts for 2019 related to the TEC1 assets and provide all supporting calculations.

On page 14 of the Application, Corix states: "These boilers are to be repurposed from the BMDEU TEC1 plant in addition to the Cleaver-Brooks boiler will carry an overall system redundancy level of 70% at N-1 at full buildout of the Docksider development."

2.15 Please explain what is meant by a redundancy level of "70 percent at N-1."

2.16 How many boilers can be offline prior to customers not receiving service? Please explain.

2.17 Please provide a comparison of redundancy levels of energy plants of other Corix developments.

C. CONSULTATION

3.0 Reference: CONSULTATION Exhibit B-1, Section 3, pp. 2, 12, 41; Appendix 4 March 14, 2019 Consultation

Question No. 10 of the March 14, 2019 DGE Public Consultation Session Q&A attached as Appendix 4 to the Application asked "What will the increase to rates look like?"

Corix provided the following response to Question No. 10:

Corix will propose to the British Columbia Utilities Commission an adjustment in the first year (2019) which will be an increase of approximately 8% in rates to the Strata. While this is an increase to the rates, the actual bills are partly dependent on floor area (fixed charges) and partly dependent on customer consumption (variable charges). So the 8% increase translates to approximately \$5/month for a 1,000 ft² suite. After that, the annual rate increase will go back to the previous 3-4%/year for the following 9 years. [emphasis added]

On page 2 of the Application, Corix states the following:

Based on 2018 consumption, a customer with a 1,000 square foot (93 square metre) residential suite with an annual consumption of 5,882 kWh would experience an increase of 3.27% or \$23 on their annual 2019 energy bill.

On page 41 of the Application, Corix states that it is proposing annual increases of 3 percent to the Basic Charge for the "5 year period covered by this Application (2019 to 2023)."

- 3.1 Please clarify the amount of the expected rate increase between interim and permanent 2019 rates if the Application is approved as filed (i.e. is the rate increase approximately 8 percent, 3 percent, or some other percentage?) Please also provide the expected bill impact.
- 3.2 Please clarify Corix’s response to Question No. 10 that the rate increases will be “3-4%/year for the following 9 years” given that Corix is only requesting levelized rate approval for a five-year period.
- 3.3 Please explain whether, as part of Corix’s responses to questions regarding rates, Corix explained the differences between the existing rate design and the proposed rate design (i.e. the proposed Variable Energy Charge) and how the rate design changes may impact the amount and frequency of rate changes experienced by customers.
 - 3.3.1 If yes, please specifically describe the information provided during the consultation session and whether Corix received any questions regarding the proposed rate design (and if so, please provide Corix’s response).
 - 3.3.2 If no, please explain why not.
- 3.4 Please clarify if Corix’s response to Question No. 10 regarding the 3-4 percent annual rate increase includes the forecast increases to the Variable Energy Charge.
 - 3.4.1 As part of the response, please explain if, based on the information and proposals contained in the Application, Corix considers the 3-4 percent annual rate increase a reasonable approximation of the expected rate increases over the proposed five-year levelized rate period.

D. PROJECT DESCRIPTION

**4.0 Reference: PROJECT DESCRIPTION
Exhibit B-1, Section 4, pp. 11, 13–14
Current Configuration**

On page 11 of the Application, Corix states: “Refurbishment of the Nexterra Plant was also considered but due to high capital cost estimates and historical challenges with fuel supply, Corix does not see this as a plausible option.”

- 4.1 Please explain in detail why the wood biomass gasification system has never been fully operational, including an explanation of the historical fuel supply challenges.
- 4.2 Please provide the estimated cost of refurbishing the wood biomass gasification system so that it would be fully operational and explain all inputs and assumptions.

On page 13 of the Application, Corix states the following:

The existing central energy plant currently contains a 2MW wood biomass gasification system with a 3.4 MW natural gas boiler and associated pump and control equipment. The gasification configuration has never been fully operational and the system is fully reliant on the 3.4 MW gas boiler with no available redundancy at this time.

On page 14 of the Application, Corix states the following:

The reconfiguration of the central energy plant at Dockside will require the flue gas boiler to be removed from the facility in order to create space for the three repurposed natural gas boilers...the remaining existing biomass equipment being laid up and stored.

- 4.3 Please clarify if the “flue gas boiler” is different from the Cleaver-Brooks natural gas boiler.
 - 4.3.1 If the two boilers are the same, please explain where the Cleaver-Brooks boiler will be located and whether this new location will result in additional costs (and if so, how much).
- 4.4 Please explain whether Corix investigated the possibility of selling the existing biomass equipment. If yes, please explain why this option was not pursued and if Corix considers it likely there is a market for selling any/all of the equipment. If no, please explain why not.
- 4.5 Please explain where the remaining biomass equipment will be stored and whether there will be an associated cost for this storage.
 - 4.5.1 If there is an associated cost for storing the remaining biomass equipment, please provide the estimated annual storage costs.
 - 4.5.2 If there is an associated cost for storing the remaining biomass equipment, please explain whether Corix is proposing to recover these costs from DGE ratepayers, and if so, why this would be appropriate.

**5.0 Reference: PROJECT DESCRIPTION
Exhibit B-1, Section 4, pp. 10, 14, 22, 29
Risk Analysis**

Table 2 on page 14 of the Application shows the updated forecast DGE development schedule.

Table 3 on page 29 of the Application describes the Project Risks, including “Development Risks,” which Corix has ranked at a “medium” risk level.

On page 22 of the Application, Corix states the following:

Since the original 2008 DGE LLP CPCN [Certificate of Public Convenience and Necessity] was approved, the development schedule has changed several times. Corix is working closely with the developer to regularly update the build-out schedule, with the most recent update dated March 26, 2019. This updated information, together with the updated load forecast using actual operational data, helps in planning the timing of the capital infrastructure.

- 5.1 Please explain in detail how Corix developed this timeline and explain the likelihood of the development occurring in the manner forecast in Table 2.
 - 5.1.1 As part of the above response, please address the development issues experienced since the original 2008 DGE LLP CPCN was approved (as described in the above preamble).
- 5.2 Please explain in detail the potential risks and impediments to the development occurring as forecast.
 - 5.2.1 As part of the above response, please identify which of the risks and impediments are within (or partially within) Corix’s control and which risks and impediments are outside of Corix’s control. For the risks and impediments within Corix’s control, please explain how Corix plans to mitigate and resolve such risks and impediments.

On page 10 of the Application, Corix states that it “believes that approval of the Application will allow the utility to achieve long-term sustainable operations at affordable rates to customers while taking into consideration uncertain real estate conditions.”

- 5.3 In consideration of the current and forecast economic and housing markets, please explain if there is a risk that the developments, once built, will remain unoccupied or will be slow in achieving full occupancy.
- 5.3.1 If yes, please explain, and quantify where possible, the impact on the levelized rate if developments are completed and capital costs are added to rate base but the load does not materialize. As part of this response, please provide a financial impact analysis similar to what was provided in Table 3 (Project Risks).
- 5.3.2 If no, please explain why not and provide support for this expectation.
- 5.4 Please explain if the existing development serviced by DGE is or has experienced occupancy issues. As part of this response, please indicate if the development is currently fully occupied, and if not, please provide the level of occupancy.

E. FINANCIAL MODELING AND INPUTS

6.0 Reference: FINANCIAL MODELING AND INPUTS Exhibit B-1, Section 5, pp. 27–28, 30 Capital Costs

Table 8 on page 27 of the Application provides the Forecast (2019) and Total (2018 to 2032) Capital Costs.

- 6.1 Please confirm, or explain otherwise, that the \$163,200 capital cost for the Temporary Energy Centre Equipment in Table 8 refers to all of the TEC1 assets transferred from the BMDEU, including the three boilers.
- 6.2 Please provide a detailed description and breakdown of the “Natural Gas Process Equipment and Install” capital costs within the Central Energy (Heating) Plant category in Table 8.

On page 28 of the Application, Corix states the following:

As noted in Table 8 above, the energy transfer stations (ETS) are installed and paid for directly by the developer using the utilities’ technical specification and final sign off. Once commissioned and completed, the asset is then transferred to utility for a nominal value of one dollar.

- 6.3 Please explain why Corix is forecasting capital costs of \$273,400 related to Project Management for the ETS, given that the ETS are installed and paid for directly by the developer.
- 6.4 Please provide details of how Corix calculated the \$237,400 of project management costs for the ETS, including what expenses are included in these costs.
- 6.5 Please provide a detailed breakdown and description of the following capital costs (both 2019 Forecast and Total). Please address each applicable line item in Table 8, excluding the ETS project management costs which were addressed in the previous IR:
- Development Costs;
 - Owner’s Engineering;
 - Construction Insurance; and
 - Corix Project Management.

On page 28 of the Application, Corix states that the following specific items are excluded from the cost estimates:

- Geotechnical work;
- Hazardous materials identification and remediation;
- Allowances for utility conflicts;
- Cost premiums due to critical shortages of labour and / or materials; and
- Changes to development schedule or scope.

6.6 Please provide a detailed description of each of the five items.

6.6.1 As part of the above response, with regard to the second item, please explain the types of hazardous materials that Corix could potentially encounter.

6.7 For each of the items listed above, please explain in detail the likelihood of the event occurring and explain the basis for this expectation. Please also explain what Corix's planned mitigation measures are for each item.

6.8 In the event any of the items listed above occur, how would Corix propose to recover these costs? Please explain.

Table 11 on page 30 of the Application shows total incremental capital costs for 2018 of \$30,998 which are comprised of \$7,267 related to the Central Energy Plant (CEP) and \$27,731 related to Development/Legal/Project Management costs.

6.9 Please confirm, or explain otherwise, that the \$7,267 of CEP costs are not related to the assets purchased by Corix in the April 25, 2018 Asset Purchase Agreement.

6.9.1 If confirmed, please provide a breakdown and description of the \$7,267 of incremental capital costs incurred in 2018 and explain the purpose of these assets.

6.9.2 If not confirmed, please explain what these assets are related to and why including these costs in rate base is appropriate.

6.10 Please provide a breakdown and description of the \$23,731 Development/Legal/Project Management costs.

6.11 For the years 2019 through 2032 included in Table 11, please separately provide the amount of costs related to Development, Legal and Project Management and provide descriptions for each type of cost per year.

**7.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, p. 29
Escalation Assumptions**

On page 29 of the Application, Corix states: "Operating costs (excluding energy) and capital costs have been escalated at 2% per annum as an estimate of inflation in the consumer price index (CPI)."

Corix also states on page 29 of the Application: "The cost of electricity is assumed to escalate moderately in excess of CPI. Corix has escalated the cost of electricity at 3% per annum for the duration of the model."

7.1 Please provide supporting references/sources to support the two percent inflation estimate for capital and operating costs.

7.1.1 Did Corix consider using any other sources, other than CPI, to estimate the escalation of capital and fixed operating costs? Please explain.

7.2 Please explain the basis for Corix’s expectation that the cost of electricity will escalate moderately in excess of CPI and provide any supporting references/sources to support this assumption.

**8.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 32–33
Fixed Operating Costs**

In Table 13 on page 32 of the Application, Corix provides a breakdown of fixed operating costs for 2019 and 2020.

On page 32 of the Application, Corix states the following:

The operating costs in 2019 are the budgeted costs based on the actual O&M costs from previous years, minus the 10% O&M markup that Corix charged DGE LLP as the system operator up until September 30, 2018. The forecast 2019 O&M costs show a reduction of 7% from \$338,700 to \$315,000 and forecast 2020 O&M costs show a further reduction of 16% from the 2019 O&M forecast.

- 8.1 Please clarify based on the statements in the above preamble if the 7 percent reduction in the forecast 2019 O&M costs is solely due to the elimination of the 10 percent O&M markup that Corix previously charged DGE LLP.
- 8.2 Please provide a breakdown of the annual fixed operating costs for the DGE utility for the years’ 2016 through 2018 in the same format (or as similar a format as possible) as Table 13 in the Application.
- 8.3 Please provide the actual amounts that Corix received annually from DGE LLP as the system operator for each year that the DGE utility was operational. Please also confirm, or explain otherwise, that the annual amount received from DGE LLP is equal to the 10 percent O&M markup described in the above preamble.

With regard to the cost of the qualified operator full time equivalent (FTE), Corix states on page 32 of the Application that the FTE is “assumed to cost \$100,000 per annum in 2019 dollars.”

8.4 Please explain the basis for the \$100,000 cost estimate.

On page 33 of the Application, Corix states that “0.5 FTE is reserved for Corix operators that will split their time between Dockside Green Energy operations and other utility operations in the surrounding areas.”

- 8.5 Please explain the basis for the assumption that the FTE allocation in 2020 would be 0.5 once the DGE plant moves to unmanned plant status.
 - 8.5.1 As part of the above response, please explain how many other utility operations the Corix operators will be splitting their time between and why half of the total time would be required for the DGE operations.

Table 13 on page 32 of the Application shows amounts for plant maintenance, distribution maintenance and ETS maintenance of \$25,000, \$3,000 and \$4,000, respectively. On page 33 of the Application, Corix states that these three maintenance activities are subcontracted.

- 8.6 Please explain how each of the annual maintenance amounts were determined in Table 13, including the number of hours assumed for each type of maintenance and the rate charged by the subcontractor(s).
- 8.6.1 Please also explain how Corix selected the maintenance subcontractor(s) and if a competitive bidding process was undertaken. If no competitive bidding process was undertaken, please explain why not.

On page 33 of the Application, Corix states that its management/administration and overhead charge of \$110,000 per annum is “an internal estimate based on Corix’s experience operating DGE in previous years.” [emphasis added]

- 8.7 Please clarify the above statement given that Corix charged DGE LLP a 10 percent O&M markup for system operator services up until September 2018.
- 8.8 Please provide a more detailed breakdown and description of the \$110,000 management/administration and overhead line item.
- 8.9 Please compare the \$110,000 management/administration and overhead charge for DGE to Corix’s other Stream B regulated utilities.

**9.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 33–34
Energy Costs**

On page 33 of the Application, Corix proposes to adjust the Variable Energy Charge associated with energy costs “on a periodic basis, subject to BCUC approval.”

On pages 33 and 34 of the Application, Corix also requests approval to establish a reconciliation account to record the difference between the actual energy costs and the revenue collected through the Variable Energy Charge and proposes to amortize the balance in this account over a one year period.

On page 34 of the Application, Corix states that its “proposals enhance energy price transparency and send the appropriate price signal to customers.”

- 9.1 Please clearly explain the process for and timing of when Corix proposes to apply for approval to adjust the Variable Energy Charge and for approval to amortize the balance in the reconciliation account.
- 9.2 Please clarify if the recovery of the balance in the reconciliation account (i.e. amortization of the account) will be included as part of future Variable Energy Charges or if the amortization of the reconciliation account is proposed to be recovered from/returned to customers through a rate rider.
- 9.2.1 If Corix proposes to include the amortization of the reconciliation account as part of the Variable Energy Charge, please discuss the impact that such an approach might have on Corix’s stated goals of enhancing energy price transparency and sending the appropriate price signal to customers.
- 9.3 Please discuss in detail the pros and cons from both Corix’s perspective and from the DGE customers’ perspective of the proposed change in the treatment of energy costs (i.e. the change from the current Variable Charge to the proposed Variable Energy Charge).

**10.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, p. 35; BCUC GCOC Stage 2 Decision, pp. 127–128
Debt and Equity Financing**

On page 35 of the Application, Corix states the following:

The interest rate on debt financing was determined using the credit spread between BBB and BBB (low) rated debt and the 10 year Government of Canada bond yield, consistent with approach outlined for calculating a “default debt” rate for TES utilities from the Commission’s GCOC Decision (Stage 1) and confirmed in the Commission’s Stage 2 Decision.

- 10.1 Please discuss whether Corix anticipates interest rates to increase or to decrease over the next few years. Please include as part of this response a discussion of the current and forecast macroeconomic pressures and how such pressures might impact Corix’s cost of debt. Please provide supporting references/sources where possible.

On page 35 of the Application, Corix states that it proposes an equity risk premium of 100 basis points (bps) over the benchmark low risk utility rate, in accordance with the BCUC’s determination regarding DGE in the Generic Cost of Capital (GCOC) Stage 2 proceeding.

In the BCUC GCOC Stage 2 Decision dated March 25, 2014, the BCUC approved an equity ratio for DGE of 42.5 percent and an equity risk premium of 100 bps. The BCUC further approved an equity ratio of 42.5 percent and an equity risk premium of 75 bps for Corix’s UniverCity district energy system on Burnaby Mountain (now called BMDEU).¹

- 10.2 Please confirm, or explain otherwise, that DGE’s ownership structure was different at the time of the GCOC Stage 2 proceeding.
- 10.3 Please confirm, or explain otherwise, that all of Corix’s BCUC-approved Stream B utilities have an approved equity risk premium of 75 bps.
- 10.4 Please provide a detailed comparison, with reference to the risk categories described in the BCUC GCOC Stage 2 Decision, of the risk profile of DGE at the time of the BCUC GCOC Stage 2 proceeding versus the present day.
- 10.4.1 As part of the above response, please discuss whether the change in DGE’s ownership structure should have an impact on the equity risk premium. If yes, please propose a revised equity risk premium and explain the basis for this proposal. If no, please explain why not.

**11.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, p. 36
Financial Parameters**

In Table 16 on page 36 of the Application, Corix provides depreciation rates for its assets.

- 11.1 Please explain how these depreciation rates were developed for each asset class.
- 11.2 Please compare the depreciation rates proposed by Corix to those used for similar assets by similar utilities/projects.

¹ BCUC GCOC Stage 2 Decision, pp. 127-128.

**12.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 32, 36–39, 42–43
Return on Equity/O&M Markup**

On page 38 of the Application, Corix states the following:

...Corix is proposing the inclusion of a 10% mark-up on O&M [Operations & Maintenance] Costs (exclusive of energy costs) in its Revenue Requirement...

...The O&M mark-up would be included in Revenue Requirement in full as long as the absolute value of the Negative RDDA [Revenue Deficiency Deferral Account] exceeds Rate Base. If Rate Base is larger than the absolute value of the Negative RDDA, then the amount of the O&M Mark-up that is included in the Revenue Requirement would be reduced by the product (the “Net Return on Rate Base”) of Corix’s allowed ROE, the percentage of equity in the capital structure, and the difference between Rate Base and the absolute value of the Negative RDDA. When the Net Return on Rate Base exceeds the O&M Mark-up (i.e. when the formula provided in the previous sentence returns a negative value), then Corix would be deemed to be earning a reasonable rate of return on its resources, and the O&M Mark-up would be eliminated. In the version of the financial model included with this submission, the O&M Mark-up is expected to be eliminated by the end of 2022.

Table 17 on pages 36 and 37 of the Application shows an amount of \$44,618 in 2019 under the line item “Return on Equity/O&M Markup” which forms part of the DGE 2019 revenue requirement.

Table 19 on pages 42 and 43 of the Application shows the Statement of Earnings for years’ 2019 through 2023, including an amount of \$32,130 in 2019 under the line item “O&M Markup.”

- 12.1 Please explain, and provide supporting calculations for, the difference between the \$44,618 Return on Equity/O&M Markup and the O&M Markup amount of \$32,130 (i.e. the \$12,488). As part of this response, please reconcile the amounts shown in the Statement of Earnings for 2019 in Table 19 to the Return on Equity/O&M Markup amount of \$44,618 for 2019 in Table 17.
- 12.2 Please provide detailed calculations for the “Return on Equity/O&M Markup” amounts for each of the years in Table 17 of the Application.
- 12.3 Please provide examples of other utilities that include an O&M mark-up in the revenue requirement, including the amount of the mark-up, and compare these utilities’ mark-ups to the mark-up requested by Corix. As part of this response, please indicate whether the identified utilities are regulated (and if so, by whom).
- 12.4 Please explain in detail how Corix selected the proposed O&M mark-up approach and why it considers this approach reasonable.
- 12.5 Please provide a detailed discussion of other alternative methods Corix considered for determining an allowed return on investment and why these other alternatives were ultimately rejected.

On page 38 of the Application, Corix states: “while Corix’s costs are being reimbursed through the Revenue Requirement, Corix is effectively receiving no return for the resources (including personnel) that it is allocating to the Docksider Green Project.”

Corix further states on page 38 of the Application that the “proposed mark-up represents a competitive rate in the marketplace...”

- 12.6 Please explain, and providing supporting references for, Corix’s statement on page 38 of the Application that the proposed mark-up represents a “competitive rate in the marketplace.”
- 12.7 Please confirm, or explain otherwise, that based on Corix’s proposed rate design, all variances between forecast and actual revenue requirements (i.e. load and costs) will be trued up to actual amounts in the RDDA.
- 12.7.1 If confirmed, please confirm, or explain otherwise, that in actuality the “allowed return on equity” proposed by Corix is a guaranteed return on equity due to the fact that Corix is not at risk for any variances between forecast and actual load/costs.
- 12.7.2 In consideration of the proposed treatment of revenues and costs and the use of the RDDA, please discuss how such a rate structure may impact Corix’s incentive to operate efficiently and cost-effectively.

Table 13 on page 32 of the Application provides the breakdown of fixed operating costs for 2019 and 2020.

- 12.8 For each line item in Table 13, please discuss the potential variability of the forecast costs and the factors which would potentially contribute to the actual costs varying from Corix’s forecasts.
- 12.9 Please discuss the reasonableness of Corix being directed to rely on its forecasts for any/all of the fixed operating costs or for its load forecast during the requested five-year levelized rate period as opposed to recording the actual results in the RDDA.
- 12.9.1 As part of the above response, please discuss Corix’s ability to forecast each of the fixed operating costs and the load for DGE in consideration of Corix’s experience with other Stream B TES utilities and in consideration of the time period of the proposed levelized rates (i.e. five years).

**13.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 39–41
RDDA**

Corix states the following on page 39 of the Application:

As part of the agreement to purchase the utility’s assets from the previous owner, Corix received a payment of \$1 million that was deposited in the RDDA...

Corix has used modelled the RDDA to cover revenue shortfalls until it is fully depleted. The RDDA is forecast to be depleted by 2024...Corix has prepared the financial model to include the application of interest to the balance in the regulatory account based on DGE’s weighted average cost of capital. The forecasted interest to be applied to the RDDA balance in 2019 is \$53,618.

Corix states on page 41 of the Application that it is proposing annual increases of three percent to the Basic Charge, effective January 1st, for the five-year period covered by this Application (2019 through to 2023).

- 13.1 Please clarify if Corix is requesting approval to set rates for a five-year period (i.e. requesting approval of levelized rates for years’ 2019 through 2023).
- 13.2 Please clarify if the levelized rate design is such that the RDDA balance is expected to be zero (i.e. no surplus or deficiency in the RDDA) by the end of 2023.

- 13.2.1 If no, please explain why Corix is only proposing to set the levelized rate for five years and not for the period of time required to reduce the RDDA balance to zero.
- 13.3 Please explain what Corix's plans are in terms of capital investment and rate-setting beyond the five-year levelized rate period.
- 13.4 Please provide a continuity schedule for the RDDA from its inception to the year that it is anticipated to reach a zero balance. Please include the following: (i) the annual opening balance (please clearly indicate whether the balance is positive or negative); (ii) annual additions related to the weighted average cost of capital incurred on the balance; (iii) annual changes related to the revenue surplus/deficiency; and (iv) the annual closing balance.

**14.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 40–42
Rate Design and Rate Proposal**

On page 40 of the Application, Corix states the following:

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.

On page 41 of the Application, Corix states the following:

The rate design and proposed rates for the period 2019 through 2023 are shown in Table 18 below. Based on 2018 consumption, a customer with a 1,000 square foot (93 square metre) residential suite with an annual consumption of 5,882 kWh would experience an increase of 3.27% or \$23 on their annual 2019 energy bill.

- 14.1 With reference to the information contained in Table 18 of the Application, please provide the detailed calculations to support the statement in the above preamble that a customer would experience an increase of 3.27 percent or \$23 on their annual 2019 energy bill.
- 14.2 Please confirm, or explain otherwise, that under the proposed rate design, customers will likely experience annual rate increases which are greater than three percent due to the fact that the Variable Energy Charge will increase independently of the annual three percent increase to the Basic Charge.
- 14.3 Please confirm, or explain otherwise, that under the previous levelized rate structure and rate design approved for DGE up until December 31, 2018, the annual rate increase was limited to three percent.
- 14.4 Please provide the bill impact in dollars for a customer with a 1,000 square foot residential suite and annual consumption of 5,882 kWh under the following scenario: (i) British Columbia Hydro and Power Authority's (BC Hydro) electricity rates increase by five percent; (ii) FortisBC Energy Inc.'s (FEI) gas rates increase by five percent; and (iii) the Basic Charge increases by three percent (i.e. the proposed annual escalation for the Basic Charge). Please provide all supporting calculations and explain how these increases would be reflected on the customer's bill.
- 14.5 Under what scenario (i.e. what level of rate increases), if any, would Corix consider the combined impact of the Basic Charge and Variable Energy Charge increases to be "rate shock"? Please discuss.
- 14.5.1 If such a scenario were to occur, how would Corix propose to mitigate the magnitude of the rate impact on customers? Please discuss.

**15.0 Reference: FINANCIAL MODELING AND INPUTS
Exhibit B-1, Section 5, pp. 44–45
Sensitivity Analysis**

In Table 21 on pages 44 and 45 of the Application, Corix models various sensitivity scenarios and provides the 30-year levelized rate per megawatt-hour (MWh) for each scenario.

15.1 Please explain why Corix has used a 30-year time period for the levelized rate sensitivity analysis.

Scenario A in Table 21 provides the 30-year levelized rate impact and maximum RDDA balance under a scenario where electricity costs escalate at six percent.

Scenarios B-1 and B-2 in Table 21 provide the 30-year levelized rate impact and maximum RDDA balance under scenarios where the boiler efficiency is less than or greater than forecast.

15.2 Please explain why each of Scenarios A, B-1 and B-2 would have an impact on levelized rates or on the RDDA balance given Corix's proposal to flow-through energy costs through the Variable Energy Charge.