

April 18, 2019

Via email

Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Water Management Branch
Utility Regulation Section
PO Box 9340 Stn Prov Govt
Victoria, BC V8W 9M1

Attention: Chris McMillan, Secretary to the Comptroller of Water Rights

Dear Mr. McMillan:

**Re: Corix Multi-Utility Services Inc. ("CMUS")
Responses to Information Request No. 1 for the Panorama 2019 Water Rate Application
and
Amendments to the Application**

CMUS respectfully submits its responses to the information requests (IR) and questions listed below:

- IR No. 1 from the Office of the Comptroller of Water Rights (Comptroller);
- IR No. 1 submitted by Bruce Hamstead on behalf of the Panorama Subdivision Owners Association 2019 (PSOA); and
- Questions raised by Mr. Hamstead on behalf of the PSOA in the letter requesting Intervener status dated February 16, 2019.

(A) Amendment to the Application

CMUS proposes to amend the Application dated November 26, 2018 (Original Application) based on:

- 2018 Actual figures;
- A 2019 forecast Corporate Services cost based on a new Corporate Allocation Model (CAM).

2018 Actual Figures

The 2019 forecast for several expenses identified in Table 1 (Operating and Maintenance Expenses for the CMUS Panorama Water Utility) of the Original Application were produced by escalating the 2018 projected figures using the target rate of inflation. This was discussed in Section 4 (pages 4-9) of the Original Application. CMUS has amended the Original Application by replacing projected 2018 figures with the actual figures for 2018. This change leads to an overall reduction in the revenue requirement.

Appendix C contains the updated financial schedules based on the amendments discussed in this cover letter.

2019 Forecast Corporate Services

CMUS is currently in the process of preparing regulatory applications for approval of the new Corporate Services allocation for CMUS utilities later this year. The allocation will be based on the Massachusetts Model. In light of this, CMUS proposes that the 2019 forecast Corporate Services cost based on the new CAM is used as a placeholder to determine the 2019 water rates in this proceeding.

The Original Application would be amended by replacing the existing 2019 forecast Corporate Services cost of \$195,693 with the figure of \$63,993, which was determined using the new CAM. This figure of \$63,993 results in a reduction in the original forecast 2019 revenue requirement by \$131,700 (approximately 28%).

CMUS notes that the final Corporate Services allocation approved by the Comptroller later this year may differ from the placeholder figure proposed in the Amended Application and proposes that any difference in revenues due to the difference in Corporate Services allocation figures be recovered from/refunded to customers in a manner to be determined at that time. The combined impact of the amendments to the Original Application are presented below.

(B) Impact of the Amendments on Customer Rates

The impact of the combined amendments on the proposed rates are shown in the table below. The proposed rates based on the amendments would be effective January 1, 2019. Appendix C contains all the financial schedules updated based on the proposed amendments.

Table 1: Comparison of Existing Rates, Rates proposed in the Original Application and the proposed rates based on the Amended Application

	Existing Rates	Original Application Proposed Rates	Amended Application Proposed Rates
Fixed Charge (<i>per bed unit per month</i>)			
• Residential	\$ 2.85	\$ 4.34	\$ 3.09
• Commercial	\$ 2.85	\$ 4.66	\$ 3.43
Metered Consumption Charge (<i>per m³</i>)			
• Residential	\$ 1.77	\$ 2.69	\$ 1.88
• Commercial	\$ 1.77	\$ 2.69	\$ 1.97
Rate Rider 1 (Consumption Deferral) (<i>per m³</i>)	None	\$2.46	\$ 2.43
Total Customer Contributions to Replacement Reserve Trust Fund (RRTF) (<i>per year</i>)	\$100,000	None	None

Table 2: Utility's Proposed Rates effective January 1, 2019 (Amended Table 5 from the Original Application)

Rate	Existing	Proposed	\$ Increase	% Increase
Residential				
• Basic service charge per bed unit (bu) per month	\$2.85	\$3.09	\$0.24	8 %
• Metered Usage (Consumption) Rate (per m ³)	\$1.77	\$1.88	\$0.11	6 %
• Availability of Service (Rent Charge) (per bu per annum)	\$45	\$45	---	---
Commercial				
• Basic service charge per bu per month	\$2.85	\$3.43	\$0.58	20 %
• Metered Usage (Consumption) Rate (per m ³)	\$1.77	\$1.97	\$0.20	12 %

Table 3 below presents an amended version of Table 7 in the Original Application. These customer bill impacts are based on customers with the average number of bed units and average consumption using 2017 actuals.

Table 3: Customer Bill Impact based on the proposed amended rates and rate rider (Amended Table 7 from the Original Application)

	Fixed Charge	Variable Charge	Rate Rider	Forecast 2019 Bill	
	\$ / bu / mth	\$ / m ³	\$ / m ³	Annual (\$)	Monthly (\$)
Residential					
Existing	2.85	1.77	-	386.04	32.17
Proposed	3.09	1.88	2.43	619.01	51.58
Change (\$)	0.24	0.11	2.43	232.97	19.41
Change (%)	8%	6%	N/A	60%	60%
Commercial					
Existing	2.85	1.77	-	5,995.19	499.60
Proposed	3.43	1.97	2.43	12,015.86	1,001.32
Change (\$)	0.58	0.20	2.43	6,020.67	501.72
Change (%)	20%	12%	N/A	100%	100%

All of which is respectfully submitted,

Corix Multi-Utility Services Inc.

Per:

Errol South

Senior Financial Planning Analyst

Cc: Elena Oliphant; Seán Twomey

REQUESTOR NAME: Utility Regulation Section, Water Management Branch
Ministry of Forests, Lands, Natural Resource Operations and
Rural Development

INFORMATION REQUEST NO: 1

TO: Corix Multi-Utility Services Inc. (CMUS) Panorama Water
Utility (Corix)

DATE: March 14, 2019

REFERENCE NO: 7536

APPLICATION NAME: 2019 Panorama Water Revenue Requirements Application

1.0 Reference: Application, pg. 4, para. 4.0

Explanation: CMUS states that: “The Bank of Canada’s target inflation rate of 2% was applied to the majority of the 2018 expenses ...”

Request:

1.1 Please identify what the actual inflation rate was in 2018 for Canada and for B.C.

CORIX RESPONSE:

The actual inflation rate in December 2018, based on a Consumer Price Index (CPI) year-over-year basis with All-Items, was:

- 2.0% for Canada; and
- 3.0% for B.C.

Source: Statistics Canada - Consumer Price Index by geography, all-items, monthly, percentage change, not seasonally adjusted, Canada, provinces, Whitehorse, Yellowknife and Iqaluit, Table 18-10-0004-02

2.0 Reference: Application, pg. 6, para. 4.1 (5)

Explanation: “**Wages - Operators:** CMUS employs two full time operators whose time are split between the water, wastewater and propane utility operations in Panorama. There are an additional five operators, employed to Corix, that are based in the Panorama region and primarily work on operating contracts that Corix has with clients in the Kootenay region. These five operators occasionally do field work for the Utility. Costs for Wages - Operators are tracked through job sheets submitted for work done specific to the Utility. 2019 costs for the Operator’s wages were developed by escalating 2018 projected costs using the Bank of Canada's target inflation rate of 2%.”

Request:

2.1 Identify and explain the % split of charges from the two full time operators to the three Panorama utilities for each of the years of the last RRA period from 2010 through 2018.

CORIX RESPONSE:

Since 2010 Corix has staffed the utilities as consistently as possible and adjusted when required due to regulatory requirements, changes in operating philosophy, staffing resource issues and team scheduling for the utilities. Corix has always maintained one full time operator at site and complemented that operator with support from the regional team.

Corix either contracts the maintenance of the propane utility to third party contractors or hires directly to complete this work. Due to the remote location of the facilities and the availability of technicians with the relevant skillset, this has varied over the years and resulted in the number of full time operators at the facilities to vary.

Over the past three years, Corix has staffed the Water and Wastewater Utilities with two full time operators. These operators work on a staggered shift to cover the weekends and are supported by the regional team for non-routine work (e.g. hydrant maintenance, meter reading, confined space entries). IR Table 1 below shows the actual breakdown of time spent by the two full time operators at each utility.

IR Table 1: Percentage of full time operator time spent working on each Panorama Utility

	Water	Wastewater	Propane	Total
Year	% of Time	% of Time	% of Time	% of Time
2016	33%	62%	6%	100%
2017	27%	70%	2%	100%
2018	27%	64%	9%	100%
3-yr Average	29%	65%	6%	

2.2 Where on Table 1 are the charges for the other 5 occasional operators shown? If they are part of Wages-Operators, then break them out for each year of the last RRA period.

CORIX RESPONSE:

The charges for the other five occasional operators are shown primarily in line 7, Wages- Operators and the remainder in line 19 – Hydrant Maintenance. IR Table 2 below shows the breakout of costs incurred by the five occasional operators for the Panorama Water utility.

IR Table 2: Percentage of costs attributed to the five occasional operators working on the Panorama Water Utility

	Five occasional operator charges to the water utility	Wages-Operators and Hydrant Maint.	% of Total Operator Costs
Year	Costs (\$)	Costs (\$)	
2016	24,373	\$ 89,880	27%
2017	24,996	\$ 90,993	27%
2018	41,709	\$ 101,069	41%

2.3 Why are Wages-Operators expected to rise nearly 30% in 2018? Wouldn't a considerable part of their expenses have been allocated to the Groundwater Source Development Program (GSDP)? Please explain.

CORIX RESPONSE:

The actual cost for Wages-Operators was \$73,274 at the end of August 2018. The budgeted forecast allowed for an additional \$44,472 from September 1 to December 31, 2018. This totaled the \$117,746 that was presented in Table 1 of the Application. Corix notes that this was a projected figure and that the actual cost for Wages-Operators in 2018 was \$101,069. The actual cost in 2018 represents an 11% increase over the actual costs for Wages-Operators incurred in 2017.

Corix resources allocated to the GSDP project are the Management costs incurred to oversee the GSDP project. These were deducted from Line 17 Wages – Administration. As indicated in note 2 of Appendix A in the Application, the 2019 forecast for Wages - Administration has been reduced by \$22,500 to account for Corix Administration Costs of \$2,500 per month associated with the administrative costs of managing the GSDP project. The \$2,500 per month of Administration Costs were approved through Order No. 2531 which addressed the final cost estimate for the GSDP project. The Utility will request to recover these costs in the subsequent rate application to be filed in 2019.

Corix is proposing to update its Wages-Operators forecast for 2019. Instead of \$119,964, Corix now forecasts \$103,090. The methodology to determine the 2019 forecast remains consistent with the methodology used for the Application, however the 2018 actual figure was used as a starting point. In the Application Corix used the 2018 year end projections as the starting point. Please see Appendix C to this IR No. 1, which provides updated financial schedules based on Corix's amendments to the Application.

3.0 Reference: Application, pg. 5, Table 1 and Appendix A, Schedule 1

Explanation: Table 1 and Schedule 1 show O&M expenses "Projected" for 2018.

Request:

3.1 Update Table 1 and Schedule 1 to include 2018 Actual expenses.

CORIX RESPONSE:

Table 1 has been updated below to include 2018 Actual expenses.

**IR Table 3: Updated Table 1 from the Application showing the Operating and Maintenance Expenses for the CMUS
Panorama Water Utility (Includes 2018 Actuals)**

Line No.	Expense	Cost Type	Actual 2015	Actual 2016	Actual 2017	Actual ⁶ 2018	Forecast 2019
1							
2	Cost of Goods Sold						
3	Chlorine and Supplies	Variable	\$ 8,020	\$ 2,889	\$ 6,532	\$ 4,643	\$ 4,736
4	Contracting	Variable	\$ 1,541	\$ 1,033	\$ 1,547	\$ 67	\$ 68
5	Billing & Customer Care	Variable	\$ 9,412	\$ 9,782	\$ 11,200	\$ 13,499	\$ 13,499
6	Water testing	Fixed	\$ 3,372	\$ 4,553	\$ 3,879	\$ 4,809	\$ 4,905
7	Wages - Operators	Fixed	\$ 84,873	\$ 89,625	\$ 90,993	\$ 101,069	\$ 103,090
8	Utilities	Variable	\$ 19,275	\$ 19,925	\$ 29,477	\$ 20,560	\$ 20,971
9	Total Cost of Goods Sold		\$ 126,493	\$ 127,807	\$ 143,628	\$ 144,647	\$ 147,270
10							
11	Selling, General and Administration Expenses						
12	Advertising	Fixed	\$ -	\$ 140	\$ 581	\$ 74	\$ 150
13	Accounting	Fixed	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
14	Vehicles/Travel	Fixed	\$ 24,625	\$ 26,634	\$ 24,423	\$ 27,416	\$ 27,964
15	Freight	Variable	\$ 474	\$ 1,755	\$ 2,160	\$ 1,690	\$ 1,724
16	Insurance	Fixed	\$ 3,440	\$ 2,767	\$ 2,945	\$ 6,105	\$ 6,227
17	Wages - Administration ²	Fixed	\$ 14,497	\$ 34,554	\$ 43,408	\$ 40,368	\$ 7,279
18	Licenses and Permits	Fixed	\$ 589	\$ 839	\$ 904	\$ 939	\$ 958
19	Hydrant maintenance	Fixed	\$ -	\$ 255	\$ -	\$ -	\$ -
20	Repairs and maintenance	Fixed	\$ 2,703	\$ 15,722	\$ 6,764	\$ 10,538	\$ 10,749
21	Office expenses	Fixed	\$ 39,669	\$ 26,280	\$ 26,194	\$ 22,014	\$ 22,454
22	Shop supplies	Variable	\$ 5,259	\$ 7,723	\$ 9,509	\$ 5,969	\$ 6,088
23	Training	Fixed	\$ 4,473	\$ 3,960	\$ 6,769	\$ 4,617	\$ 4,709
24	Bad Debt	Fixed	\$ 300	\$ 4	\$ -	\$ -	\$ -
25	Corporate Services ^{3,4}	Fixed	\$ 170,270	\$ 172,725	\$ 194,881	\$ 254,670	\$ 259,764
26	Regulatory Costs ⁵	Fixed	\$ -	\$ -	\$ -	\$ 19,631	\$ 20,000
27	Total selling, general and administration		\$ 274,798	\$ 301,858	\$ 327,038	\$ 402,531	\$ 376,566
28							
29	Total Expenditures		\$ 401,291	\$ 429,665	\$ 470,666	\$ 547,178	\$ 523,836

The updated Table 1 shows that the 2018 Actual Total O&M was \$547,178 or 13% higher than the projected 2018 figure of \$484,216 included in the Application. A lower than projected Wages-Operators figure was unable to offset higher than anticipated Corporate Services costs and Regulatory Costs.

As majority of the 2019 forecast O&M expenses were escalated up from 2018 figures, the 2019 forecast O&M was automatically updated. The updated Table 1 shows that the 2019 Forecast Total O&M was \$523,836 or 12% higher than the projected 2018 figure of \$466,200 included in the Application. The updated Schedule 1 is attached as Appendix A to this document.

Corix subsequently amended the 2019 forecast based on 2018 actuals and a new corporate allocation model. The primary amendments are described in the cover letter to this document. The updated Financial Schedules based on 2018 Actuals and the new corporate allocation model are in Appendix C.

4.0 Reference: Application, pg. 6, para. 4.2 (12)

Explanation: “Wages - Administration: Costs for the Operations Manager and the Utility Administrator that are associated with the operations of the Utility. Costs include, but are not limited to, managerial tasks and administrative tasks including review of meter reading data, corresponding with customers, ordering supplies and handling any notifications such as for water advisories, emergency preparedness. The Utility is allocated 15% of the total Wages – Administration costs for the Operations Manager and the Utility Administrator. This allocation percentage was determined in the past based on the amount of time spent on the Utility relative to Corix’s other utilities in Panorama. This percentage has consistently been used by the Utility in Audited Annual Reports submitted to the Comptroller. The 2019 forecast for Wages - Administration costs has been reduced by \$22,500 to account for administrative costs of \$2,500 per month associated with managing the GSDP project. These costs are consistent with those approved through Order No. 2351, which addressed the final cost estimate for the GSDP project. The Utility will request to recover the \$22,500 in the subsequent rate application to be filed in 2019.”

Request:

4.1 In 2015, Panorama Water was charged only \$14,497 for Administration. Explain why the charges rose so much in the following years?

CORIX RESPONSE:

The cost increased for the reasons provided below:

- Corix hired a new regional manager and operations supervisor in November 2015. In such a remote location, compensation packages have to be competitive with local municipalities. In order to attract the right talent the compensation was higher than that of the outgoing manager.
- In addition to the new Regional Manager and Operations Supervisor, Corix also created a new Full-Time Administrator position in 2016. The Administrator works with the operational staff to order materials, issue purchase orders for purchase or repair of equipment, schedule service inspections, meter replacements and other miscellaneous administrative tasks for the utility.

4.2 Substantiate the rationale for the 15% allocation of the Operations Manager and the Utility Administrator. In what year was the 15% established and was it based on time sheets or total book value of all CMUS assets? Has anything changed since the 15% allocation was established? What utilities are managed by the Operations Manager and the Utility Administrator. Please explain.

CORIX RESPONSE:

Our records indicate that the 15% allocator has been used for Panorama Water since 2011. Corix does not have records of the allocator prior to 2011 so it could have been used prior to 2011 as well. The 15% allocator is a reasonable estimate of the amount of time and effort the administrative staff, including the Operations Manager, spends tending to the Water Utility.

Since 2011 the amount of time and effort required by the manager and administrator for Panorama Water relative to the other Panorama utilities has not changed. The following utilities are managed by the Operations Manager and Utility Administrator:

- the Water Utility;
- the Sewer system and Wastewater Treatment Plant;
- the Propane Utility; and
- Ten Operations and Maintenance Service Contracts for third-party utilities in the East Kootenay Region.

5.0 Reference: Application, pg. 7, para. 4.2 (20)

Explanation: “Corporate Services: This expense includes costs related to support functions that are incurred at a corporate level and allocated to the Panorama Water utility operation. Corporate Services costs include, among others, Wages and Benefits, Information Technology, Administration and Office Expenses, Consulting, Vehicle, Travel and Training expenses. From 2010 through to 2017, Corix used the “Massachusetts Formula” to allocate Corporate Services costs to each of its business units.”

And “Corix has grown and acquired new utilities over the past decade, resulting in a portfolio that includes utilities such as Dockside Green Energy; UBC Neighbourhood District Energy System; UniverCity District Energy System; Cultus Water utility and others. This growth has necessitated a revision of Corix’s allocation practices for its Corporate Services costs. External consultants were hired to review the current Corporate Allocation Model (the Massachusetts Model), consider alternatives and make recommendations regarding the most appropriate model for Corix to use going forward. The review is ongoing and Corix expects this project to be complete in early 2019. Once this project is complete, Corporate Services cost allocations will be recalculated and the forecast Corporate Services cost for 2019 will likely change.”

Request:

- 5.1 Why did Corporate Services rise by about \$22,000 in 2017? With the growth of Corix, shouldn’t there have been economies of scale from that corporate growth to reduce allocations to Panorama?

CORIX RESPONSE:

In the past, a portion of Corporate Services costs was allocated to CMUS from the parent company, Corix Infrastructure Inc. (“CII”). The CMUS share of Corporate Services costs was then allocated to each utility within CMUS, including Panorama, and then further allocated to each individual Panorama utility. These allocation processes were based on the Massachusetts Model described below. The allocation percentage

from CMUS to Panorama was 25.6% in 2016 and 23.4% in 2017. The allocation from Panorama to Panorama Water was roughly the same in both years at 25%.

The primary source of the difference in costs was observed at the CMUS level. There was a 20% increase in Corporate Services Cost allocated from CII to CMUS in 2017. The Massachusetts Model takes into account three composites: revenue; total wages and the net book value of tangible capital assets. In 2017:

- CMUS experienced an increase in both revenue and tangible capital assets.
- CUI, one of the subsidiaries of CII experienced a decrease in revenue and tangible capital assets. This led to Corporate Services Costs previously allocated to CUI being redirected to the remaining CII subsidiaries, which includes CMUS.

Despite the growth of Corix over the past decade, an increase in Corporate Services Cost being allocated to CMUS could occur in a year if growth occurred within CMUS, while other CII subsidiaries either were sold or experienced decreases in revenue and/or fixed assets.

As stated in the Application, Corix is in the process of revising its corporate allocation practices and the current corporate allocation model (CAM). At this time, Corix has calculated the 2019 forecast Corporate Services cost for Panorama to be \$63,993 (based on the new CAM), down from a 2019 forecast of \$195,693 included in the Application. All else being equal, this represents a 28% reduction in the 2019 forecast revenue requirements that results in a reduction of the proposed rates for 2019. As described in the cover letter to this document, Corix proposes to amend the Application with rates developed using the new CAM allocation. Corix intends to file a subsequent application for approval of the new CAM figure in 2019. Should the regulatory review of the new CAM result in a figure different from \$63,993 for the 2019 Corporate Services forecast, Corix proposes to recover from/refund the difference to customers. The updated Financial Schedules based on 2018 Actuals and the new CAM are in Appendix C.

5.2 Please restate Table 2 to include 2016 and 2017.

CORIX RESPONSE:

Table 2 has been restated below to include actuals for 2016, 2017, 2018 and the updated forecast breakdown for 2019 based on the new CAM discussed in response to IR 5.1 above.

IR Table 4: Updated Table 2 with Breakdown of Corporate Services costs

Line No.	Corporate Services Overhead	Actual 2016	Actual 2017	Actual 2018	Forecast 2019
1	Wages and Benefits	\$ 117,539	\$ 133,006	\$ 165,001	\$ 41,461
2	Administration/Office	\$ 26,358	\$ 24,886	\$ 41,333	\$ 10,386
3	IT and Other Expenses	\$ 13,939	\$ 18,338	\$ 24,881	\$ 6,252
4	Consulting	\$ 8,153	\$ 12,882	\$ 17,649	\$ 4,435
5	Vehicle/Travel/Training	\$ 6,736	\$ 5,768	\$ 5,806	\$ 1,459
6					
7	Total Corporate Services Overhead	\$ 172,725	\$ 194,881	\$ 254,670	\$ 63,993

5.3 Has any regulator reviewed Corix’s Corporate Services Overhead? If yes, please provide their findings.

CORIX RESPONSE:

Past rate applications filed by Corix with the Water Comptroller and with the BC Utilities Commission have included a corporate allocation cost component as part of the revenue requirement. The methodology employed in determining the corporate allocation amounts differed between filings. While the regulator accepted the corporate allocations as part of the revenue requirement, no specific language concerning corporate overhead was included in the written decisions from the regulator.

No regulator has reviewed Corix’s new Corporate Allocation Model or the associated figures for each utility.

5.4 Provide the report of the external consultants review of Corporate Services if it is complete.

CORIX RESPONSE:

Corix has provided the confidential presentation from the external consultants to the Corix Management Team. Corix requests that this document be kept confidential due to the commercially sensitive material that is contained within.

5.5 Provide any commentary that the BCUC may have provided for Corporate Services allocations for Dockside Green Energy or other Corix utilities regulated by the BCUC.

CORIX RESPONSE:

Please see the response to IR 5.3 above. The BCUC is aware that Corix is reviewing its Corporate Allocation model.

6.0 Reference: Application, pg. 8, para. 4.3

Explanation: “When \$472,987 is compared to the 2010 actual figure, the compound increase from 2010 through to forecast 2019 is equivalent to an annual average increase of 4.06% each year.”

Request:

6.1 Restate the compound increase based on Total Expenses/ Total Water Consumption and Total Expenses/Customers.

CORIX RESPONSE:

When compared to the 2010 actual figures, the compound increase from 2010 through to forecast 2019 in the Application is equivalent to an annual average increase of:

- i. 6.00% for Total Expenses / Total Water Consumption; and
- ii. 3.21% for Total Expenses / Total Customers (metered).

Based on the amendments to the Application the compound increase from 2010 through to forecast 2019 has changed. The total 2019 forecast O&M becomes \$347,697 after the amendments to the Application. When \$347,697 is compared to the 2010 actual figure of \$330,686, the compound increase from 2010 through to forecast 2019 is equivalent to an annual average increase of 0.56% each year. When compared to the 2010 actual figures, the compound increase from 2010 through to forecast 2019 after amendments to the Application is equivalent to an annual average increase of:

- i. 2.34% for Total Expenses / Total Water Consumption; and
- ii. -0.36% for Total Expenses / Total Customers (metered).

6.2 With total number of customers and total consumption having been relatively flat over the last 8 years, to what does the Utility attribute the rise in Total O&M Expenses above inflation over those 8 years?

CORIX RESPONSE:

Based on data obtained from Statistics Canada’s website, the average annual inflation for the last 8 years (2011 through to 2018) has been 1.49% for British Columbia. During this time, Total O&M Expenses has undergone an annual average increase of 5.84% each year. This results in an annual average increase of 4.35% each year over and above British Columbia’s inflation rate.

Total O&M Expenses from 2011 to 2018 rose at a rate that exceeded inflation primarily due to:

- Wages for both Operators and Administrative roles including management; and
- Corporate Services costs.

Corix provides compensation packages designed to attract and retain skilled operators and experienced managers. Corix believes that the benefits that arise from staff retention outweigh the benefits of wages lower than market that are often accompanied by high turnover. In such a remote location, compensation packages have to be competitive with local municipalities and this has resulted in a significant increase in operator, administration and management wages over time. In addition, as the utility infrastructure has deteriorated over time the number of hours needed to keep it operational has increased.

Corporate Services costs have been discussed in response to IR Nos. 5.1 and 5.2. While this has increased steadily from 2011 through to 2018, the amendments to the Application result in a forecasted decrease to Corporate Services costs for 2019. Please refer to IR No. 5.1 for more details on historical increases in Corporate Services costs.

Other cost increases above inflation include, but are not limited to, electricity rates and chemical prices for water treatment.

7.0 Reference: Application, pg. 9, para. 5.0

Explanation: “The number of bed units for residential and commercial customers were held constant from the most recent actuals and are 2,107 and 2,438 respectively.”

Request:

7.1 Is there any new information regarding projected bed units for 2019?

CORIX RESPONSE:

There is one single family residential home under construction at Panorama. It is anticipated this residence will be completed in 2019 and connected to the water system. Corix has no further information regarding any additional customers for 2019.

7.2 To what circumstances does the utility attribute the lack of growth at Panorama since 2010?

CORIX RESPONSE:

The majority of existing properties at Panorama are secondary recreational properties. Real estate development and expansion at Panorama is largely dependent upon economic factors in nearby regions where many of the Panorama property owners reside. In particular, the utility attributes lack of growth at Panorama since 2010 to:

- (i) the strength of the Alberta economy;
- (ii) availability of disposable income for Albertans; and
- (iii) consumer confidence regarding the Alberta economy.

Alberta’s economy is highly dependent on the oil and gas industry and associated commodity prices. Corix identified the following key events that negatively impacted Alberta during the 2010 to 2018 period:

1. 2008 Global Recession - During the global recession of 2008, Alberta experienced an economic recession recording negative economic growth in 2008 and 2009 of -0.2% and -5.1%¹ respectively. The effects of this slowdown continued, causing real estate values to fall, which led to a reduction in homeowner equity.
2. 2014 Collapse of Oil Prices - In 2015 Alberta’s economy entered into a recession. Economic Growth declined by 3.7% for 2015 and declined by another 3.7% in 2016. This was brought about by the 2014 worldwide collapse of oil prices. For example, the West Texas Intermediate (WTI) oil price began 2014 at close to US\$100 per barrel in January 2014, remained above US\$90 until September 2014 and then tumbled to around US\$55 by year end. Lower oil prices led to a slowdown in Alberta’s energy sector and many other sectors. This led to job loss and reduced income, a reduction in homeowner equity and a reduction in disposable income for Albertans. As the recession continued this led to a decline in consumer confidence regarding the recovery of the

¹ Government of Alberta Annual Reports for 2008 and 2009

Alberta economy.

These events impacted the ability and willingness of potential buyers to purchase a secondary recreational property in the Panorama region.

8.0 Reference: Application, pg. 9, para. 5.0

Explanation: “Residential consumption was forecast on a monthly basis using the forecast number of bed units and a rolling average of the actual month’s consumption per bed unit for the previous three years.”

And “Commercial consumption forecast in the same manner as residential consumption, on a monthly basis using the forecast number of bed units and a rolling average of the actual month’s consumption per bed unit for the previous three years.”

Request:

8.1 Why was a three year average chosen for the consumption forecast?

CORIX RESPONSE:

A three year average was chosen as Corix determined that this time period would capture more recent and relevant use-per-customer trends than, for example a five year or ten year average, while incorporating varying annual consumption than, for example using the most recent year.

8.2 Would a different methodology do a better job of accounting for consumption variables such as ski conditions and water conservation?

CORIX RESPONSE:

Corix considers that there may be a different methodology that does a better job of accounting for consumption variables such as ski conditions and water conservation. The choice of a forecasting model depends on a variety of factors, such as accuracy of the model, complexity of the model, resources to prepare the forecast, defensibility and other factors. The rolling average approach is commonly used in the utility industry and was used by Corix in the Panorama 2010 Water Rate Application. The Panorama 2010 Water Rate Application was reviewed by the Comptroller and subsequently approved through Order No. 2232.

8.3 Does the Utility anticipate that water consumption will increase once the GSDP comes into service later in 2019? Please discuss.

CORIX RESPONSE:

During the summer months when the Boil Water Advisory is in effect, Corix anticipates that customers may obtain drinking water elsewhere. After the completion of the GSDP, the utility may see an increase in consumption during that period – however Corix anticipates this may only be a marginal increase. Corix will not be able to confirm this until the GSDP is operational for at least two full summer seasons and Corix has had a chance to review consumption data. Due to the anticipated timing of completion of the GSDP and the months during which the Boil Water Advisories typically occur, the impact described above would not be experienced until 2020 summer.

9.0 Reference: Application, pg. 10, Table 3

Explanation: Table 3 shows projected customers, consumption and revenue.

Request:

9.1 Update Table 3 for 2018 Actuals and any changes that the Utility thinks necessary to the 2019 Forecast.

CORIX RESPONSE:

Please see the updated Table 3 below. The updated Table 3 also includes an update to the 2019 residential figures to account for the addition of one single family residential home mentioned in the response to IR No. 7.1 above. Corix has assumed the default 10 bed units per single family home and a mid-year attachment for the forecast new residential customer in 2019. These updates are included in the amendments to the Application and are used in Appendix C to calculate the proposed rates based on the amendments.

IR Table 5: Updated Table 3 showing Utility Customers and Revenues (With 2018 Actuals)

	Actual	Actual	Actual	Projected	Forecast	Actual	Updated Forecast
	2015	2016	2017	2018	2019	2018	2019
Residential							
No. of customers	274	283	287	288	288	290	291
No. of bed units (bu)	1,814	1,936	1,996	2,017	2,017	2,030	2,058
Consumption (m ³)	21,353	22,044	24,027	24,957	24,097	25,809	24,824
Revenue	\$109,612	\$116,670	\$121,207	\$121,255		\$122,287	
Commercial							
No. of customers	34	34	37	37	37	37	37
No. of bed units (bu)	2,346	2,462	2,438	2,438	2,438	2,438	2,438
Consumption (m ³)	69,405	72,107	78,216	77,091	75,587	77,564	75,745
Revenue	\$200,502	\$208,653	\$231,214	\$219,831		\$213,470	

Notes:

- 1) Number of residential customers excludes 29 Standby residential customers at the end of 2018.
- 2) Consumption period runs from January to December inclusive.
- 3) No. of bed units represents the annual average.
- 4) 2018 Revenues reflect actual revenues received.

10.0 Reference: Application, pg. 11 & 12, para. 6.2

Explanation: “The Deferred Capacity Trust Fund (DCTF) accumulates one-time charges for applicants for service from outside the boundaries of the Utility or from subdivision of existing lots. The amount for each class of customer is detailed in the tariff and the DCTF accumulates interest, which is retained in the fund. The DCTF is made available to pay for future expansion of water system's capacity upon the approval of the Comptroller.”

And “The Utility recommends that no changes be made to the contributions for the DCTF.”

Request:

10.1 Has the Utility considered amending its Tariff to include Extension Charges and Connection Fees in lieu of an ongoing DCTF? Please explain.

CORIX RESPONSE:

The existing Tariff contains sections that address the Application for Extension of Service to (i) lots outside the service area authorized through the CPCN (section 19); and (ii) lots within the authorized service area (section 20). Each case allows for a deposit to be made into the DCTF. Corix considered that an amendment to the Tariff to include Extension Charges in lieu of a DCTF should occur after rate base has been established subsequent to the completion of the GSDP project. Establishing an Extension Charge before rate base is established and depreciation begins could result in an Extension Charge that does not accurately reflect the net cost/benefit to the system of adding a customer outside that requires an extension of the system.

Corix currently has a Water Service Connection fee, outlined in Schedule A in the Tariff for Panorama Water.

11.0 Reference: Application, pg. 13, para. 7.1

Explanation: “The total Regulatory cost for this application is forecasted to be \$18,500 (\$6,787 in 2018 and \$11,713 in 2019). This include an estimate of \$8,000 of costs associated with any consultant the Comptroller’s office may hire for the review of this Application. The Utility proposes to recover all of this cost through rates in 2019.”

Request:

11.1 Are any of the Regulatory Costs related to Corix staff costs or are they only for external services such as legal and consultants? If any of these costs are for Corix staff, why were they not part of Corporate Services Overhead?

CORIX RESPONSE:

The Regulatory Cost forecast to be incurred by Corix is \$10,500. This was calculated by subtracting \$8,000 for the Comptroller’s consultant, if any, from the overall total of \$18,500. The \$10,500 forecast for Corix did not include external services such as legal counsel and/or consultants. These costs were not part of Corporate Services Overhead as the analyst and accountants’ time related to this Application are tracked through job sheets and directed charged to the utility.

11.2 If actual costs turn out to be less, or greater, than forecast, does Corix propose that they be included in a deferral account? Please explain your proposal.

CORIX RESPONSE:

In the Application, Corix did not propose the use of a deferral account for regulatory costs that were greater or lesser than forecast during 2019. This is because Corix intends to file a subsequent rate application in 2019 for 2020 rates. The application for 2020 rates could involve the use of a deferral account for regulatory costs to true-up any differences between:

- 2019 Forecasts and 2019 Actuals; and
- 2020 Forecasts and 2020 Actuals (if any).

At that time, Corix would request an amortization period for the recovery/return of the balance in the deferral account.

At this time, Corix is not opposed to establishing a deferral account for regulatory costs at the end of this proceeding as the actual 2018 regulatory costs were higher than projected. Corix estimates that 2019 regulatory costs related solely to this application will also be higher than initially forecasted. The regulatory costs associated with this application was \$19,631 in 2018 and are forecasted to be \$12,000 for Corix staff in 2019. This excludes the Comptroller’s use of a consultant. This cost was determined based on the job sheets used to track time working on this Application. An adjustment was made to account for time spent working on the rate application associated with the GSDP project costs. Initially Corix began background work on one rate application that would incorporate increases in O&M and GSDP project costs. At the end of September 2018 it was realized that two separate applications would have to be made, one in 2018 and one in 2019. Corix estimated that prior to the realization of two separate rate applications, roughly half the time was spent working on GSDP-related topics. Corix then adjusted the hours logged to arrive at the 2018 Actual regulatory cost of \$19,631.

12.0 Reference: Application, pgs. 14 & 15, para. 7.4

Explanation: “The Utility proposes to maintain the use of the original formula approved by the Water Comptroller with one modification. The Utility proposes that instead of tying the risk premium to PNG, the risk premium should instead be equal to the minimum default equity risk premium for small thermal energy system (TES) utilities as determined by the BCUC in Order G-47-14. The Utility proposes that the Operating Margin be calculated using the ROE allowed by the BCUC on the benchmark low risk utility plus the risk premium allowed for small TES utilities.

$$= (h) + () = 8.75\% + 0.75\% = .\%$$

CMUS is comprised of TES utilities regulated by the BCUC and water utilities regulated by the Comptroller. The Utility considers that this is an efficient approach to determining the Operating Margin which ties the Operating Margin directly to CMUS utilities, as opposed to PNG.

Furthermore, the proposed formula has been approved by the Comptroller through Decision and Order No. 2512 regarding CMUS’s Cultus Lake Water utility. The Utility notes that approval of this proposal would result in consistency across CMUS’s two water utilities and CMUS’ UniverCity District Energy System at Burnaby Mountain.”

Request:

12.1 Please explain why Dockside Green and UBC are not referenced as small TES utilities. If they have different ROEs, please explain why?

CORIX RESPONSE:

Corix did not reference Dockside Green Energy (DGE) because DGE has an approved equity risk premium different from the other small TES utilities due to its unique circumstances. In the Generic Cost of Capital Stage 2 Proceeding, the BCUC noted that DGE was significantly under-earning its allowed return on investment due to lack of build-out at its development. The BCUC also noted an assessment of non-empirical risk factors for DGE such as: (i) Competition risk; (ii) Customer Load risk; (iii) Development Cost risk; (iv) Operating Cost risk; (v) Rate Design risk; and (vi) Regulatory risk. The BCUC then approved an equity risk premium of 100 bps for DGE, which brought DGE’s approved ROE to 9.75%.²

Corix made an error in omitting the University of British Columbia (UBC) Neighbourhood District Energy System (NDES) from the referenced paragraph. Subsequent to the BCUC Generic Cost of Capital Stage 2 Proceeding, the UBC NDES was approved an equity risk premium of 75 basis points over the benchmark low risk utility.³ This results in an approved ROE of 9.5%, consistent with small TES

² BCUC Generic Cost of Capital Stage 2 Proceeding Decision, dated March 25, 2014, pp. 125-127; Order G-47-14, p. 3.

³ BCUC Order G-84-15, dated May 25, 2015, p. 3.

utilities.⁴

12.2 Corix identifies on Application page 13 that it does not currently pay income tax. What would the BCUC Benchmark utility ROE be on an after-tax basis and why shouldn't that ROE be used in the proposed ROE determination?

CORIX RESPONSE:

The BCUC Benchmark utility ROE of 8.75% is an after-tax ROE. In the BCUC Generic Cost of Capital Stage 1 Proceeding Decision, the Panel noted that "... rates are set based on a forecast revenue requirement for the year, which includes a provision for the allowed ROE, grossed up for income taxes."⁵ Subsequent rate applications by the Benchmark Utility, now FortisBC Energy Inc., confirm that the after-tax ROE is 8.76%.

Corix is open to calculating a tax expense for Panorama Water to be included in the revenue requirements. This would be under the assumption that each CMUS utility should recover its share of tax expense each year. However, the implication of this would be a higher revenue requirement and higher rates for Panorama customers for 2019.

13.0 Reference: Application, pg. 16, Table 5

Explanation: The Utility does not plan rate design changes until it files its next Revenue Requirements & Rate Application

Request:

13.1 Why is the Commercial Basic Charge to be increased by 64% while all other charges are proposed to increase by 52%?

CORIX RESPONSE:

Based on the 2019 forecast number of bed units and consumption for both residential and commercial customers, Corix set the 2019 proposed rates so that residential customers would pay the same percentage of the revenue they did in 2017. Commercial customers would also pay the same percentage of the revenue they did in 2017. As seen in Schedule 5 of the Application the actual 2017 revenue and forecast 2019 revenue is broken down as follows:

⁴ Ibid.

⁵ BCUC Generic Cost of Capital Stage 1 Proceeding Decision, dated May 10, 2013, pp. 20-21.

IR Table 6: Percentage of Revenue

Type of Revenue	% of Revenue	
	Actual 2017	Forecast 2019
Residential		
• Fixed Charges	20%	20%
• Variable Charges	12%	13%
• Standby Charges	2%	2%
Commercial		
• Fixed	26%	26%
• Variable	39%	39%
Total (with rounding)	100%	100%

The increase in Commercial Basic Charge over the increase in the Residential Basic Charge was due to the increase in residential bed units from the year 2017 to the year 2019 while there was no change in commercial bed units during this time.

Corix considered this approach fair and reasonable to determine the required rates for 2019. This approach results in customer groups paying the same portion of the revenue requirement through the same fixed-variable charge split as was done in the past. Also, Schedule 5 of the Application included the breakdown for 2018 projected revenue that showed a similar breakdown to the 2017 revenue.

The amendments to the Application do not have any impact on the response to this question.

14.0 Reference: Application, pg. 17, para. 9.1

Explanation: “The Utility proposes to continue the use of the consumption deferral account going forward and to recover/refund any balance in this deferral account at the end of the year within the following 12 months. Only amounts added to the deferral account from January 1, 2019 onwards would be recovered on a 12 month basis.”

Request:

14.1 Why has the Utility chosen a one year period to recover future variances in consumption forecasts? Would a two or three year period tend to better smooth differences due to ski conditions, etc.? Please discuss.

CORIX RESPONSE:

Corix proposes to recover/refund any balance in the consumption deferral account at the end of the year within the following 12 months for the following reasons:

1. Size of deferral account – A one year period reduces the risk of the deferral account balance increasing to a large amount due to unforeseen events such as a sudden economic recession or an unusually warm winter with poor ski conditions.

2. Consistent with the use of other regulatory deferral accounts – A one-year amortization period for the balance in deferral accounts is common in the industry. For example, the BCUC used a one year amortization period for natural gas utilities to amortize their commodity supply costs (L-5-01)
3. Annual Rate Applications – Corix intends to file annual rate applications for the first few years that follow the completion of the GSDP project. This will facilitate a detailed understanding of the operations of the new water supply system, any changes to consumption as a result of the new system and a new rate base approach to determining the revenue requirements. Corix believes a consumption deferral account with a one-year amortization period aligns with an annual rate application schedule.

15.0 Reference: Application, pg. 18 and Tables 6 & 7

Explanation: “The Utility proposes that the deficit of \$490,391 be recovered over two years with a rate rider of \$2.46 per cubic meter effective January 1, 2019 which is then reduced to \$2.42 per cubic meter effective January 1, 2020 based on the current forecast consumption for 2020.”

Request:

- 15.1 Table 6 shows the rate rider recovery over 1,2 or 3 years. Please expand the Table to show a 4 year recovery.

CORIX RESPONSE:

As the Consumption Deferral Account (CDA) balance included a 2018 projected figure, Corix has updated the CDA balance using 2018 actuals. This resulted in a new CDA balance at the end of 2018 of \$488,398, down from \$490,391. The response to this question is based on the updated CDA balance of \$488,398.

In order to show the rate rider recovery over 4 years, Corix had to prepare consumption forecasts for 2022. Corix uses a three-year rolling average for consumption per bed unit so the 2022 consumption per bed unit forecast was based on 2019, 2020 and 2021 forecast. Since these three years are also forecasts Corix notes that the 2022 forecast is based on other forecasts. An expanded table is shown below with data showing the rate rider recovery over 4 years.

IR Table 7: Consumption Deferral Rate Rider Scenario Analysis

	Forecast			
	2019	2020	2021	2022
Forecast Annual Consumption (cu. meter)				
Annual Consumption - Residential	24,824	25,323	25,477	25,227
Annual Consumption - Commercial	75,745	77,124	76,811	76,560
Total Annual Consumption	100,569	102,447	102,288	101,787
Calculation of rate rider to recover deferral account balance				
Rate Rider (1 year recovery) (per cu. meter)	\$ 4.86	\$ -	\$ -	\$ -
Rate Rider (2 year recovery) (per cu. meter)	\$ 2.43	\$ 2.38	\$ -	\$ -
Rate Rider (3 year recovery) (per cu. meter)	\$ 1.62	\$ 1.59	\$ 1.59	\$ -
Rate Rider (4 year recovery) (per cu. meter)	\$ 1.21	\$ 1.19	\$ 1.19	\$ 1.20

15.2 Recognizing that the Utility chose not to seek recovery of the CDA for 8 years, would it be more fair to customers and the Utility to have the historic CDA recovered over 3 or 4 years? How would either of these recovery proposals impact the percentage increase to customer rates in 2019, as depicted in Tables 5 and 7?

CORIX RESPONSE:

The utility had several considerations when determining the proposed length of time over which to recover the historic CDA. These were:

- The combined bill impact of the consumption deferral rate rider and the addition of the GSDP project costs to rate base for the 2020 rates. The GSDP project costs are anticipated to have a sizeable impact to customer rates in 2020;
- The number of years the utility has been under-recovering operating costs;
- The difference in bill impact between the recovery of the CDA over 3 years or 1 year versus the proposed 2 years; and
- The reliance of a multiyear recovery period on a multiyear consumption forecast that excludes actual historical figures.

It was decided that a two-year recovery period presented a reasonable period when all the above factors were taken into consideration. In order to enable convenient comparison, Corix has included the updated Table 7 based on the proposed amendments and the 2-year CDA recovery period below.

IR Table 8: Customer Bill Impact based on the proposed rates and a 2-yr rate rider scenario

	Fixed Charge	Variable Charge	Rate Rider	Forecast 2019 Bill	
	\$ / bu / mth	\$ / m ³	\$ / m ³	Annual (\$)	Monthly (\$)
Residential					
Existing	2.85	1.77	-	386.04	32.17
Proposed	3.09	1.88	2.43	619.01	51.58
Change (\$)	0.24	0.11	2.43	232.97	19.41
Change (%)	8%	6%	N/A	60%	60%
Commercial					
Existing	2.85	1.77	-	5,995.19	499.60
Proposed	3.43	1.97	2.43	12,015.86	1,001.32
Change (\$)	0.58	0.20	2.43	6,020.67	501.72
Change (%)	20%	12%	N/A	100%	100%

Recovery over 3 Years:

Table 5 in the Application shows Corix’s proposed basic charge, consumption charge and rent charges. These charges were calculated independent of the consumption deferral account and will not be impacted by any changes in the rate rider developed to recover the balance in the consumption deferral account. So if the CDA was recovered over 3 or 4 years instead of the proposed 2 years there would be no changes to the proposed rate increases for the basic charge, consumption charge and rent charge.

Table 7 in the Application shows the total customer bill impact of all the proposals in the Application. Corix has updated the table below to account for the amendments to the Application discussed in the cover letter of this document. Based on the amendments, if the CDA was recovered over 3 years instead of the proposed 2 years, Table 7 would look as follows:

IR Table 9: Customer Bill Impact based on the proposed rates and a 3-yr rate rider scenario

	Fixed Charge	Variable Charge	Rate Rider	Forecast 2019 Bill	
	\$ / bu / mth	\$ / m ³	\$ / m ³	Annual (\$)	Monthly (\$)
Residential					
Existing	2.85	1.77	-	386.04	32.17
Proposed	3.09	1.88	1.62	551.25	45.94
Change (\$)	0.24	0.11	1.62	165.21	13.77
Change (%)	8%	6%	N/A	43%	43%
Commercial					
Existing	2.85	1.77	-	5,995.19	499.60
Proposed	3.43	1.97	1.62	10,304.85	858.74
Change (\$)	0.58	0.20	1.62	4,309.66	359.14
Change (%)	20%	12%	N/A	72%	72%

Based on 2017 bed units and consumption, the difference in total bill between a 3-year CDA rate rider and the proposed 2-year CDA rate rider is:

- \$67.76 annually (\$5.65 per month) for a residential customer; and
- \$1,711 annually (\$142.6 per month) for a commercial customer.

Recovery over 4 Years:

Based on the amendments, if the CDA was recovered over 4 years instead of the proposed 2 years, Table 7 would look as follows:

IR Table 10: Customer Bill Impact based on the proposed rates and a 4-yr rate rider scenario

	Fixed Charge	Variable Charge	Rate Rider	Forecast 2019 Bill	
	\$ / bu / mth	\$ / m ³	\$ / m ³	Annual (\$)	Monthly (\$)
Residential					
Existing	2.85	1.77	-	386.04	32.17
Proposed	3.09	1.88	1.21	517.37	43.11
Change (\$)	0.24	0.11	1.21	131.33	10.94
Change (%)	8%	6%	N/A	34%	34%
Commercial					
Existing	2.85	1.77	-	5,995.19	499.60
Proposed	3.43	1.97	1.21	9,449.35	787.45
Change (\$)	0.58	0.20	1.21	3,454.16	287.85
Change (%)	20%	12%	N/A	58%	58%

Based on 2017 bed units and consumption, the difference in total bill between a 4-year CDA rate rider and the proposed 2-year CDA rate rider is:

- \$101.64 annually (\$8.47 per month) for a residential customer; and
- \$2,566.51 annually (\$213.88 per month) for a commercial customer.

15.3 Please provide an analysis of likely 2020 rates under scenarios with CDA recovery over 2, 3, or 4 years. For 2020, the Utility should assume that the GSDP is completed on time and on budget, that variable utility costs increase by 2%, that forecast consumption in 2020 is equal to the 2019 forecast of consumption and that 2020 rates are determined on a rate base rate of return methodology. Based on those pro forma scenarios, please discuss the CDA recovery option (2, 3 or 4 years) that might minimize rate shock for customers.

CORIX RESPONSE:

Corix prepared a preliminary rate analysis for the purposes of responding to this information request in the time required. The preparation for the rate application regarding the GSDP costs and rate base will result in a significantly more detailed financial model. As such, the figures presented here are indicative only and may not represent what Corix proposes in the subsequent application for 2020 rates. The table below was prepared based on the assumptions outlined in the IR above and the amendments discussed in the cover letter to this document.

In addition, preliminary calculations show that the updated 2019 Corporate Services cost (based on the new CAM) could rise above \$200,000 in 2020 after the GSDP project is completed and placed into service. This calculation takes into account the increased assets and revenue for Panorama Water but does not take into account any changes for other utilities owned by Corix or its parent Corix Infrastructure Inc. (CII). Corix anticipates that this figure could change based on:

- Changes in revenue at other Corix or CII utilities. Revenue could change due to rate changes, consumption changes and/or the number of customers;

- changes to labour costs; and
- capital projects at other Corix or CII utilities impacting the net book value of their tangible capital assets.

As such, this increased Corporate Services cost was used for 2020 Corporate Services solely for the purposes of responding to this information request.

It should be noted that the rates for 2020 were designed to recover the full revenue requirements in 2020. This allows for a better comparison of the impact of changing only the CDA recovery period in each scenario. In reality, 2020 rates will have to be designed with rate shock being an important consideration.

IR Table 11: Likely Rates Under various scenarios regarding the recovery of the CDA balance (2, 3 and 4 years)

Scenarios	2018	2019		2020	
	Rates	Rates	YOY Change	Rates	YOY Change
Residential					
BU Rate (\$/bu/mth)	2.85	3.09	8%	8.74	183%
Cons. Rate (\$/m ³)	1.77	1.88	6%	5.44	189%
Rate Rider (\$/m ³)					
• 2-yr recovery of CDA	--	2.43	N/A	2.41	-0.78%
• 3-yr recovery of CDA	--	1.62	N/A	1.61	-0.78%
• 4-yr recovery of CDA	--	1.21	N/A	1.20	-0.78%
Commercial					
BU Rate (\$/bu/mth)	2.85	3.43	20%	9.40	174%
Cons. Rate (\$/m ³)	1.77	1.97	12%	5.42	174%
Rate Rider (\$/m ³)					
• 2-yr recovery of CDA	--	2.43	N/A	2.41	-0.78%
• 3-yr recovery of CDA	--	1.62	N/A	1.61	-0.78%
• 4-yr recovery of CDA	--	1.21	N/A	1.20	-0.78%

IR Table 11 above provides the likely rates, however in order to assess rate shock the total bill impact should be considered for a typical customer. IR Table 12 below shows that while the CDA recovery period does have the ability to reduce the rate increase for 2019, it exaggerates the 2020 rate increase. In other words, when a lower-than-proposed rate increase is achieved for 2019, a higher-than-anticipated rate increase is then required for 2020 rates in order to start recovering the GSDP costs.

IR Table 12: Bill impact on 2019 and 2020 rates of varying CDA recovery periods (2, 3 and 4 years)

Details	2018	2019		2020			
	Annual Bill	Annual Bill	Change (%)	Change (\$)	Annual Bill	Change (%)	Change (\$)
Residential							
2-year recovery of CDA	386	619	60%	233	1,389	124%	770
3-year recovery of CDA	386	551	43%	165	1,321	140%	770
4-year recovery of CDA	386	517	34%	131	1,287	149%	770
Commercial							
2-year recovery of CDA	5995	12,016	100%	6,021	24,023	100%	12,007
3-year recovery of CDA	5995	10,305	72%	4,310	22,312	117%	12,007
4-year recovery of CDA	5995	9,449	58%	3,454	21,456	127%	12,007

The analysis shows that a 2-year recovery period for the CDA balance addresses rate shock better than a 3-year or 4-year CDA recovery period since it serves to balance (or smoothen) the rate increases for both 2019 and 2020 by reducing the size of rate increase in 2020 and increasing the size of the rate increase in 2019.

16.0 Reference: Application, pgs. 20 &21

Explanation: The update on the GSDP progress was as at November 2018.

Request:

16.1 Please provide any more recent information the Utility may have on the GSDP Project activity and cost projections.

CORIX RESPONSE:

Due to winter, no work has been done on site. Since the November update, the contractor and engineering firm have continued to work on project related items such as permit applications, material procurement, and production of shop drawings. Construction is anticipated to resume on May 1st, 2019 and reach completion in early October 2019. During the 2019 construction season, the remaining works will be carried out:

- Directional boring and installation of water supply lines;
- Installation of surface excavated water supply lines;
- Completion of well pump kiosk;
- Completion of booster pumphouse and water treatment facility;
- Installation of steel bolted reservoir; and
- System implementation and commissioning.

Current cost overages experienced to date equal \$14,165, or 0.2% of the contract total. However, there are eight change orders to date, and four still require resolution.

17.0 Reference: Comments of Mr. Somerville of poor water pressure at 1741 Greywolf Drive

Explanation: Occupants complained of poor water pressure.

Request:

17.1 Please identify what water pressure is expected at that residence during peak water consumption periods.

CORIX RESPONSE:

The ideal operating range for domestic water supply is 275 – 415 kPa (40 – 60 pounds per square inch (psi)).

17.2 Will the GSDP project rectify the water pressure issues at this residence?

CORIX RESPONSE:

The GSDP project will not rectify the water pressure issues at this residence. The GSDP Project addresses the source and treatment of the water supply. Mr. Somerville discusses water pressure issues in his comments. Water pressure issues can occur for general sections of the distribution system or can be localized to a specific connection. Water pressure can be impacted by the location of the residence, specifically the elevation and distance from the mains supply line, and/or other factors such as the Pressure Regulating Valve (PRV) for that particular residence.

17.3 Does the Utility believe that this water pressure is adequate? Why?

CORIX RESPONSE:

Corix made several attempts to measure the water pressure experienced at 1741 Greywolf Drive. There was no flow and 0 psi at the hose bibb. Water pressure measurements are done at the hose bibb as the pressure gauge will securely attach to the threading. Corix assumes that the hose bibb was shut off for winterization. Corix was unsuccessful in its attempts to contact the owner to turn on the hose bibb.

While each customer is expected to have an on-premise PRV for their specific residence, the distribution system also has PRVs serving different sections of the system. 1741 Greywolf Drive is located on a section of the distribution system where the water pressure from 1730 Greywolf Drive to 1901 Greywolf Drive is regulated by a PRV (Greywolf PRV). The remainder of Greywolf Drive and all other roads are serviced by other PRV's. In June 2018 the Greywolf PRV was recorded having an inlet pressure of 135 psi and an outlet pressure of 80 psi.

In lieu of a water pressure measurement at the subject location, Corix measured the following pressures on that section of the distribution system:

- 1911 Greywolf Drive (upstream of PRV): 64 psi
- 1891 Greywolf Drive (downstream of PRV): 48 psi
- 1797 Greywolf Drive (downstream of PRV, bottom of hill of Forest Ridge): 44 psi
- 1734 Greywolf Drive (across the street from subject house, same elevation): 24 psi.

At the beginning of April 2019 Corix adjusted the Greywolf PRV which now has an inlet pressure of 130 psi and an outlet pressure of 94 psi. Despite this increase on the Greywolf PRV the pressure readings at each home are dependent on the settings of each on-premise PRV.

17.4 If the Utility believes that water pressure is not adequate, please identify the most appropriate upgrade to rectify the situation, its cost and whether any customer contributions would be required?

CORIX RESPONSE:

Corix has adjusted the Greywolf PRV to have an outlet pressure of 94 psi. Even with this adjustment the water pressure at each premises is dependent on the settings of each on-premise PRV. Since the Greywolf PRV's outlet pressure has been increased to 94 psi Corix considers that the situation could be rectified as follows:

- (i) The customer can check to ensure their personal PRV is adjusted properly. If not they could have it adjusted by a professional.
- (ii) The customer can have a booster pump installed for their residence.

18.0 Reference: Comments and concerns of Mr. and Mrs. Harrington

Explanation: The concerns of the Harringtons should be further addressed.

Request:

18.1 Please provide a response to each of the concerns raised by the Harringtons.

Email from K. Harrington

We are homeowners in Panorama resort, on average we are at Panorama 175 partial and full days a year. We have owned multiple properties over the last 10 years and plan to retire at our current cabin on Greywolf Drive.

My husband and I have reviewed the notice of Application by: Corix - Panorama Water, proposed Interim rates and have the following comments/concerns:

No future focus:

- A water rate increase should indicate a positive change toward future improvements, upon review of the documents we do not see any improvements, just catching up for either poor modelling, improper assumptions or imprudent management
- Global warming and fires are a special concern at Panorama for obvious reasons, and increasing water rates (along the inordinately high sewage rates which are measured with water consumption despite irrigation putting little or no burden on the sewer system) results in a reduced irrigation schedule increasing the summer fire risk, combined with insufficient water pressure at points on the resort is a real concern for homeowners who have no recourse from an unresponsive monopoly.
- With Trappers landing construction will be on-going for many years, in order to promote development, reasonable water and sewage rates are required to promote development, this has been promoted as cost effective with smaller cabins, this won't be the case if monthly water rates are prohibitive consideration for development from prospective homeowners. I in fact shared my

- Corix bill with such a person prior to purchase of a lot and construction.
- Corix will benefit from future development at Panorama, they should not be seeking adjustments to rates that are nothing short of shocking and anti-development.

CORIX RESPONSE:

(A) Rate increases at water utilities are needed to recover the increasing revenue requirements of that utility. Revenue requirements comprise of operating and maintenance (O&M) costs, administrative and general expenses, an operating margin, contributions to reserve funds and taxes. An increase in any of these costs could necessitate an increase in water rates. The amount of the rate increase is dependent on the number of customers and also the total customer consumption. In this particular case, the water rate increases have been necessitated by a combination of factors such as:

- inflation;
- increasing third party costs;
- increasing general and administrative costs;
- increasing O&M costs for an aging water system; and
- unforeseen changes in the economy resulting in lower than anticipated development and lower customer consumption.

(B) The water system at Panorama was not designed to provide protection from forest fires. Corix does not have the in-house knowledge to speak to the use of residential and commercial irrigation water to reduce the risk of forest fires in the Panorama region.

Water pressure issues can occur for general sections of the distribution system or can be localized to a specific connection. Water pressure can be impacted by the location of the residence, specifically the elevation and distance from the mains supply line, and/or other factors such as the Pressure Regulating Valve (PRV) for that particular residence. Corix maintains the fire hydrants on the Panorama water system which are used for the purposes of firefighting.

(C) Corix notes that despite leaving rates unchanged since 2010 there was no increased growth in development. All else being equal, if development had occurred during this time the rate increase for each customer would have been less than proposed in this Application.

(D) The rate increase requested is due to the factors listed in part (A) of this response. As Corix plans to do more frequent rate changes in the future, Corix expects that future rates will take into consideration further developments should these developments materialize.

Poor Modelling & Questions of Costs Prudence

- The increase appears to be based on poor modelling around water consumption assumptions that were not addressed, adjusted or corrected for years. It could also reflect the incurrence of imprudently managed costs however there was insufficient information to validate any of the costs.
- No information has been provided by the proponent on: the prudence of the costs incurred, and what cost efficiencies are being sought; the history of poor utilization forecasting and what has been done to correct it (why are the forecasts included in the application to be believed?) the poor approach at rate design.
- The proponent needs to prove that the costs underlying its revenue requirement it seeks will be

prudently incurred - it has not done that.

CORIX RESPONSE:

- (E) Please see part (A) of this response above for the reasons supporting the rate increases in this Application. The Comptroller of Water Rights outlines the information required for Revenue Requirement Applications on page 8 of the “Financial Guidelines for CPCN Applications”, which is available online.⁶ Corix has provided all the relevant information listed in Section 9 Revenue Requirements. Information such as Rate Base and Depreciation have not been included due to use of the approved Operating Margin approach to determining revenue requirements for Panorama.
- (F) See response (E) above. Annual rate change applications is a proposal by Corix that could result in the reduction of the impact of unforeseen events that lead to significant variances between actuals and forecasts. Corix Panorama’s has a two-part rate with a (i) fixed charge and (ii) a variable charge. This approach is common in the utility industry. It is ideal to recover all the fixed costs through the fixed charge and all the variable costs through the variable charge however, several factors typically preclude this from happening. One of these factors, for example, is that a high fixed charge, to match typically high fixed costs, can discourage conservation which could then result in the utility having to invest more capital to increase system capacity. This in turn would increase customer rates.
- (G) All Corix costs are reasonable and justifiable and supported by documentation such as invoices and detailed financial calculations where relevant. Furthermore, Panorama Water prepares an annual financial report detailing the costs, revenue and trust fund contributions and withdrawals and submits this annual report to the Comptroller. An independent auditor (Ernst & Young LLP) audits the annual reports each year and produces an independent auditor’s report that is included with the Panorama Water annual report to the Comptroller.

Improper Application of Increased Costs: BAD Rates design

- We suggest that Corix is not requesting correct or fair adjustments to the rate determinants, and that, if approved as applied for, would unduly burden those that consume from the system as opposed to those who have benefit of its availability. We argue that the comptroller require that ***any increase to revenue requirements granted under this application should be more heavily, if not entirely, recovered from the fixed monthly fees and NOT to the consumption charges***. A couple of reasons: i) Assurance of recovery - Corix has shown that it is poor at forecasting and modelling consumption, moving more of the revenue requirement into the fixed fees would more fairly distribute any increase and provide greater assurance of recovery for Corix largely eliminating forecast error, ii) Nature of costs: according to their own evidence, the vast majority of the costs Corix incurs are fixed in nature, why they would seek to recover them through variable charges is nonsensical.
- A smaller related point; Corix should be required to simplify its fixed monthly fee to a fee per unit basis - the ‘per bed’ measure is not transparent, is discretionary and seems to unnecessarily complicate rate determinants.

⁶ Private Water Utilities in BC - Financial Guidelines for Certificate of Public Convenience and Necessity (CPCN) Applications, dated November 2016.

CORIX RESPONSE:

- (H) Corix submits that the adjustments to the rates are reasonable. Corix set the 2019 proposed rates so that residential customers would pay the same percentage of the revenue they did in 2017. Commercial customers would also pay the same percentage of the revenue they did in 2017. Please see the response to IR 13.1 of this document which shows the portion of revenue recovered from each charge.

Ideally fixed charges should be designed to recover fixed costs and variable charges should be designed to recover variable costs. However, there are many considerations that often result in utilities recovering a portion of fixed costs through variable rates. One example is that a relatively high fixed charge, to match typically high fixed costs, discourages conservation, which could then result in the utility having to invest more capital to increase system capacity. This in turn increases customer rates. Another important issue is that high fixed charges could lead to the subsidization of customers with high consumption by customers with low consumption. The proposed 2019 rates would recover approximately 48% of its revenue requirement through fixed charges and Corix considers this to be a reasonable portion.

- (I) Bed units are used at Panorama to determine fixed monthly charges due to the presence of a hotel customer on the system. In the future, Corix intends to review the use of bed units to determine fixed monthly charges. Depending on the outcome of that review, Corix would then apply to the Comptroller for a change to the rate design for Panorama Water’s rates.

Poor System Performance

- In the FAQ that was circulated, it states “The proposed rate change matches rates to the increased operational costs of **providing safe drinking water and fire protection to Panorama customers.**” Apart from the perennial “Water Advisories” warning us not to drink the water, this statement has another problem, primary among them being that the **current panorama water system does not meet expected standards**, our property (and many others) has insufficient water pressure to fight a fire. Any other municipality would not have approved the development without appropriate water pressure for fire coverage we believe that unless this is corrected in the plans underpinning any rate application, such application should be denied or approval should come with conditions requiring correction of this.

CORIX RESPONSE:

- (J) Corix recognizes that in certain areas of the community water pressure is not sufficient to provide enough water flow in the event of a fire. The local Fire Department is aware of this and is prepared for this scenario in the case of a fire. It should be noted that Corix acquired this infrastructure from the Developer of the community. Corix does not issue building permits in the community as that is the role of the regional district.

We do not support this application for increase and we believe granting any increase without proof or requirement that the underlying problems have been corrected should not occur.

CORIX RESPONSE:

Corix notes that the rate increase is not as a result of an underlying problem that needs correction. The rate increase requested in this Application is needed to recover the increasing revenue requirements of the utility. See the response to IR No. 18.1 Item (A) for an explanation of factors that lead to the proposed rate increase. The size of the rate increase is primarily a result of the length of time that has passed since the last rate increase for Panorama Water customers. In order to prevent this from reoccurring, Panorama Water intends to file more frequent rate applications going forward.

APPENDIX A:
IR No. 3.1 – Updated Schedule 1

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Inflation Rate ¹	2.00%
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Line No.	Expense	Cost Type	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018 ⁶	Forecast 2019
1												
2	Cost of Goods Sold											
3	Chlorine and Supplies	Variable	\$ 3,303	\$ 2,981	\$ 2,498	\$ 2,354	\$ 4,042	\$ 8,020	\$ 2,889	\$ 6,532	\$ 4,643	\$ 4,736
4	Contracting	Variable	\$ 3,985	\$ 5,287	\$ 28	\$ 3,821	\$ 901	\$ 1,541	\$ 1,033	\$ 1,547	\$ 67	\$ 68
5	Billing & Customer Care	Variable	\$ 13,487	\$ 9,088	\$ 9,021	\$ 9,545	\$ 8,265	\$ 9,412	\$ 9,782	\$ 11,200	\$ 13,499	\$ 13,499
6	Water testing	Fixed	\$ 12,836	\$ 13,460	\$ 7,404	\$ 3,469	\$ 3,510	\$ 3,372	\$ 4,553	\$ 3,879	\$ 4,809	\$ 4,905
7	Wages - Operators	Fixed	\$ 57,205	\$ 59,246	\$ 62,065	\$ 83,974	\$ 84,394	\$ 84,873	\$ 89,625	\$ 90,993	\$ 101,069	\$ 103,090
8	Utilities	Variable	\$ 13,910	\$ 13,564	\$ 12,441	\$ 15,319	\$ 17,335	\$ 19,275	\$ 19,925	\$ 29,477	\$ 20,560	\$ 20,971
9	Total Cost of Goods Sold		\$ 104,726	\$ 103,628	\$ 93,456	\$ 118,481	\$ 118,447	\$ 126,493	\$ 127,807	\$ 143,628	\$ 144,647	\$ 147,270
10												
11	Selling, General and Administration Expenses											
12	Advertising	Fixed	\$ -	\$ -	\$ 132	\$ -	\$ -	\$ -	\$ 140	\$ 581	\$ 74	\$ 150
13	Accounting	Fixed	\$ 8,500	\$ 8,500	\$ 8,649	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
14	Vehicles/Travel	Fixed	\$ 20,965	\$ 25,998	\$ 24,582	\$ 19,723	\$ 19,836	\$ 24,625	\$ 26,634	\$ 24,423	\$ 27,416	\$ 27,964
15	Freight	Variable	\$ 1,321	\$ 1,593	\$ 1,187	\$ 326	\$ 1,635	\$ 474	\$ 1,755	\$ 2,160	\$ 1,690	\$ 1,724
16	Insurance	Fixed	\$ 4,519	\$ 4,317	\$ 3,823	\$ 2,853	\$ 2,417	\$ 3,440	\$ 2,767	\$ 2,945	\$ 6,105	\$ 6,227
17	Wages - Administration ²	Fixed	\$ 10,597	\$ 11,083	\$ 11,397	\$ 8,076	\$ 13,261	\$ 14,497	\$ 34,554	\$ 43,408	\$ 40,368	\$ 7,279
18	Licenses and Permits	Fixed	\$ 834	\$ 566	\$ 591	\$ 507	\$ 1,067	\$ 589	\$ 839	\$ 904	\$ 939	\$ 958
19	Hydrant maintenance	Fixed	\$ 13,899	\$ 7,739	\$ 4,121	\$ -	\$ -	\$ -	\$ 255	\$ -	\$ -	\$ -
20	Repairs and maintenance	Fixed	\$ 11,824	\$ 17,644	\$ 2,081	\$ 20,376	\$ 57,676	\$ 2,703	\$ 15,722	\$ 6,764	\$ 10,538	\$ 10,749
21	Office expenses	Fixed	\$ 8,584	\$ 14,236	\$ 14,287	\$ 20,326	\$ 14,955	\$ 39,669	\$ 26,280	\$ 26,194	\$ 22,014	\$ 22,454
22	Shop supplies	Variable	\$ 2,041	\$ 3,003	\$ 1,170	\$ 4,754	\$ 9,696	\$ 5,259	\$ 7,723	\$ 9,509	\$ 5,969	\$ 6,088
23	Training	Fixed	\$ 5,628	\$ 4,536	\$ 7,099	\$ 8,478	\$ 7,271	\$ 4,473	\$ 3,960	\$ 6,769	\$ 4,617	\$ 4,709
24	Bad Debt	Fixed	\$ 6,614	\$ 135	\$ 671	\$ (160)	\$ 85	\$ 300	\$ 4	\$ -	\$ -	\$ -
25	Corporate Services ^{3,4}	Fixed	\$ 130,634	\$ 151,646	\$ 176,635	\$ 211,428	\$ 224,597	\$ 170,270	\$ 172,725	\$ 194,881	\$ 254,670	\$ 259,764
26	Regulatory Costs ⁵	Fixed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,631	\$ 20,000
27	Total selling, general and administration		\$ 225,960	\$ 250,994	\$ 256,426	\$ 305,186	\$ 360,996	\$ 274,798	\$ 301,858	\$ 327,038	\$ 402,531	\$ 376,566
28												
29	Total Expenditures		\$ 330,686	\$ 354,622	\$ 349,882	\$ 423,668	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 547,178	\$ 523,836
30												
31	Cost Analysis											
32	Total Fixed Operating Expenses		\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 500,750	\$ 476,750
33	Total Variable Costs		\$ 38,047	\$ 35,517	\$ 26,345	\$ 36,118	\$ 41,874	\$ 43,981	\$ 43,107	\$ 60,425	\$ 46,428	\$ 47,087
34												
35	Fixed Operating Expenses as percentage of Total Expenses		88.5%	90.0%	92.5%	91.5%	91.3%	89.0%	90.0%	87.2%	91.5%	91.0%
36	Variable Costs as percentage of Total Expenses		11.5%	10.0%	7.5%	8.5%	8.7%	11.0%	10.0%	12.8%	8.5%	9.0%

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Notes

- 1) Inflation is set to the Bank of Canada's target inflation rate. Expenses for 2019 escalated from 2018 Projected figures based on the target inflation rate, except for (i) Billing and Customer Care; (ii) Advertising; (iii) Accounting; (iv) Wages - Administration and (v) Regulatory Costs
- 2) The 2019 forecast for Wages-Administration has been reduced by \$22,500 to account for Corix Administration Costs of \$2,500 per month associated with the administrative costs of managing the GSDP project. The \$2,500 per month of Administration Costs were approved through Order No. 2531 which addressed the final cost estimate for the GSDP project. The Utility will request to recover these costs in the subsequent rate application to be filed in 2019.
- 3) The Massachusetts Formula was used from 2010 through to 2018 to allocate Corporate Services charges to Panorama Water Utility. The Massachusetts Formula allocates costs based on an arithmetical average of: operating revenue, payroll, and average net book value of tangible capital assets plus inventories. The corporate service charges are overhead costs incurred by Corix, the parent company of Corix Multi-Utility Services Inc., in the course of managing it's utility business.
- 4) Corix has employed external consultants to investigate the use of a alternate methodology to allocate corporate services overhead charges to its utilities. For the 2018 Actual costs, Corix removed direct costs associated with this rate application, and escalated the net figure using the target inflation rate. The 2019 figure is an escalation of the 2018 figure using the inflation rate. CMUS anticipates that in the subsequent rate allocation to be filed in 2019, the corporate services expense could be updated based on the use of a different methodology as a result of the external consultants findings and recommendations.
- 5) Regulatory costs were incurred during the preparation of this rate application in 2018. The costs have been shown in both 2018 and 2019 to reflect the timing of when the expenses will occur. 2019 forecast figures includes \$8,000 for any consultant(s) that the Comptroller might hire for the review of this application. The Utility proposes to recover the total regulatory costs through rates effective January 1, 2019. This adjustment to include 2018 regulatory costs in the 2019 O&M forecast is shown in Schedule 3. These regulatory costs presented here do not include costs associated with the preparation of the subsequent application for rates to be filed in 2019.
- 6) Actual 2018 figures from January 1 to December 31st, 2018.

APPENDIX B:
Financial Schedules Updated with 2018 Actuals

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Inflation Rate ¹	2.00%
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Line No.	Expense	Cost Type	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018 ⁶	Forecast 2019
1												
2	Cost of Goods Sold											
3	Chlorine and Supplies	Variable	\$ 3,303	\$ 2,981	\$ 2,498	\$ 2,354	\$ 4,042	\$ 8,020	\$ 2,889	\$ 6,532	\$ 4,643	\$ 4,736
4	Contracting	Variable	\$ 3,985	\$ 5,287	\$ 28	\$ 3,821	\$ 901	\$ 1,541	\$ 1,033	\$ 1,547	\$ 67	\$ 68
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6	Water testing	Fixed	\$ 12,836	\$ 13,460	\$ 7,404	\$ 3,469	\$ 3,510	\$ 3,372	\$ 4,553	\$ 3,879	\$ 4,809	\$ 4,905
7	Wages - Operators	Fixed	\$ 57,205	\$ 59,246	\$ 62,065	\$ 83,974	\$ 84,394	\$ 84,873	\$ 89,625	\$ 90,993	\$ 101,069	\$ 103,090
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10												
11	Selling, General and Administration Expenses											
12	Advertising	Fixed	\$ -	\$ -	\$ 132	\$ -	\$ -	\$ -	\$ 140	\$ 581	\$ 74	\$ 150
13	Accounting	Fixed	\$ 8,500	\$ 8,500	\$ 8,649	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
14	Vehicles/Travel	Fixed	\$ 20,965	\$ 25,998	\$ 24,582	\$ 19,723	\$ 19,836	\$ 24,625	\$ 26,634	\$ 24,423	\$ 27,416	\$ 27,964
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24	Bad Debt	Fixed	\$ 6,614	\$ 135	\$ 671	\$ (160)	\$ 85	\$ 300	\$ 4	\$ -	\$ -	\$ -
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26	Regulatory Costs ⁵	Fixed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,631	\$ 20,000
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28												
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30												
31	Cost Analysis											
32	Total Fixed Operating Expenses		\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 500,750	\$ 476,750
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35	Fixed Operating Expenses as percentage of Total Expenses		88.5%	90.0%	92.5%	91.5%	91.3%	89.0%	90.0%	87.2%	91.5%	91.0%
36	Variable Costs as percentage of Total Expenses		11.5%	10.0%	7.5%	8.5%	8.7%	11.0%	10.0%	12.8%	8.5%	9.0%

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Notes

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- 2) The 2019 forecast for Wages-Administration has been reduced by \$22,500 to account for Corix Administration Costs of \$2,500 per month associated with the administrative costs of managing the GSDP project. The \$2,500 per month of Administration Costs were approved through Order No. 2531 which addressed the final cost estimate for the GSDP project. The Utility will request to recover these costs in the subsequent rate application to be filed in 2019.
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- 5) Regulatory costs were incurred during the preparation of this rate application in 2018. The costs have been shown in both 2018 and 2019 to reflect the timing of when the expenses will occur. 2019 forecast figures includes \$8,000 for any consultant(s) that the Comptroller might hire for the review of this application. The Utility proposes to recover the total regulatory costs through rates effective January 1, 2019. This adjustment to include 2018 regulatory costs in the 2019 O&M forecast is shown in Schedule 3. These regulatory costs presented here do not include costs associated with the preparation of the subsequent application for rates to be filed in 2019.
- 6) Actual 2018 figures from January 1 to December 31st, 2018.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Revenues**

Line No.	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	
1											
2	Number of Customers (Average per year)										
3	Residential - metered	263	263	263	263	263	274	283	287	290	291
4	Commercial	39	36	35	33	33	34	34	37	37	37
5	Total metered customers	302	299	298	296	296	308	317	324	327	328
6											
7	Residential - unmetered ¹	37	37	37	36	37	40	31	30	29	29
8	Total Customers	339	336	335	332	333	348	348	354	356	357
9											
10	Average Annual Number of bed units (bu)										
11	Residential bu	1,345	1,754	1,763	1,761	1,769	1,814	1,936	1,996	2,030	2,058
12	Commercial bu	2,556	2,543	2,471	2,360	2,342	2,346	2,462	2,438	2,438	2,438
13	Total Annual bu	3,901	4,297	4,234	4,121	4,111	4,160	4,397	4,434	4,468	4,496
14											
15	Annual Consumption (cu. M)										
16	Annual Consumption - Residential	23,572	21,554	20,465	21,037	20,845	21,353	22,044	24,027	25,809	24,824
17	Annual Consumption - Commercial	94,195	70,256	66,982	75,897	76,348	69,405	72,107	78,216	77,564	75,745
18	Total Annual Consumption	117,767	91,810	87,447	96,934	97,193	90,758	94,151	102,243	103,373	100,569
19											
20	Sales Revenue										
21	Residential - Basic Charge (excl. accruals)	\$ 44,224	\$ 59,997	\$ 60,299	\$ 60,239	\$ 60,511	\$ 62,045	\$ 66,206	\$ 68,266	\$ 69,426	
22	Residential - Usage (excl. accruals)	\$ 41,722	\$ 38,151	\$ 36,223	\$ 37,235	\$ 36,896	\$ 37,795	\$ 39,018	\$ 42,528	\$ 45,682	
23	Residential Sales Revenue (excl. accruals)	\$ 85,946	\$ 98,148	\$ 96,522	\$ 97,475	\$ 97,407	\$ 99,839	\$ 105,223	\$ 110,794	\$ 115,108	
24											
25	Commercial - Basic Charge (excl. accruals)	\$ 84,746	\$ 86,971	\$ 84,520	\$ 80,701	\$ 80,079	\$ 80,222	\$ 84,183	\$ 83,380	\$ 83,380	
26	Commercial - Usage (excl. accruals)	\$ 166,725	\$ 124,353	\$ 118,558	\$ 134,338	\$ 135,136	\$ 122,847	\$ 127,629	\$ 138,442	\$ 137,288	
27	Commercial Sales Revenue (excl. accruals)	\$ 251,470	\$ 211,324	\$ 203,078	\$ 215,038	\$ 215,215	\$ 203,069	\$ 211,813	\$ 221,822	\$ 220,668	
28											
29	Accruals - Residential	\$ (2,503)	\$ 403	\$ (28)	\$ (2,076)	\$ 1,044	\$ (1,072)	\$ 1,424	\$ 1,668	\$ -	
30	Accruals - Commercial	\$ (8,917)	\$ 8,049	\$ (253)	\$ (8,037)	\$ 7,949	\$ (2,567)	\$ (3,160)	\$ 9,392	\$ -	
31	Total Accruals ^{2,3}	\$ (11,420)	\$ 8,452	\$ (281)	\$ (10,113)	\$ 8,993	\$ (3,639)	\$ (1,736)	\$ 11,060	\$ -	
32											
33	Total Sales Revenue	\$ 325,996	\$ 317,924	\$ 299,319	\$ 302,400	\$ 321,615	\$ 299,269	\$ 315,300	\$ 343,676	\$ 335,776	
34											
35	Other Revenue										
36	Residential - Availability of Service (Rent) Charges	\$ 9,250	\$ 10,823	\$ 9,990	\$ 9,900	\$ 10,083	\$ 9,995	\$ 9,213	\$ 8,170	\$ 7,830	
37	Residential Connection Fees	\$ 550	\$ 380	\$ 615	\$ 255	\$ 475	\$ 850	\$ 810	\$ 575	\$ -	
38	Residential - Other Income	\$ 480	\$ -	\$ 1,065	\$ 180	\$ 180	\$ -	\$ -	\$ -	\$ -	
39											
40	Total Revenue	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 332,353	\$ 310,114	\$ 325,323	\$ 352,421	\$ 343,606	
41											
42	Total Residential Revenue	\$ 93,723	\$ 109,754	\$ 108,164	\$ 105,734	\$ 109,189	\$ 109,612	\$ 116,670	\$ 121,207	\$ 122,938	
43	Total Commercial Revenue	\$ 242,553	\$ 219,373	\$ 202,825	\$ 207,001	\$ 223,164	\$ 200,502	\$ 208,653	\$ 231,214	\$ 220,668	

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Revenues**

Schedule 2

Notes

1. These are "Availability of Service" customers, also known as Rent (Standby) Customers.
2. Accruals occur due to the timing of the generation of the bill and the allowed payment period. For example, a customer's use for December is billed in January of the following year and the payment deadline would occur in February. Due to this delay accrual adjustments are made. The accrual figures shown here represent the aggregate accrual adjustments throughout the year.
3. Corix does not forecast accruals.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Reserve Trust Fund Summary

Line No.	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Projected 2018	Forecast ¹ 2019
1										
2	Replacement Reserve Trust Fund (RRTF)									
3	\$ 232,034	\$ 297,556	\$ 374,654	\$ 479,189	\$ 256,901	\$ 360,133	\$ 436,439	\$ 348,282	\$ 451,223	\$ 16,876
4										
5	\$ 1,355	\$ 3,471	\$ 4,535	\$ 5,275	\$ 3,232	\$ 3,696	\$ 3,554	\$ 2,941	\$ 3,226	\$ -
6										
7										
8	Replacement Reserve:									
9	\$ 89,167	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ -
10										
11										
12										
13										
14	\$ (25,000)	\$ (26,372)	\$ -	\$ (327,563)	\$ -	\$ (27,389)	\$ (191,712)	\$ -	\$ (537,574)	\$ (16,876)
15										
16	\$ 297,556	\$ 374,654	\$ 479,189	\$ 256,901	\$ 360,133	\$ 436,439	\$ 348,282	\$ 451,223	\$ 16,876	\$ -
17										
18	Deferred Capacity Trust Fund (DCTF)									
19	\$ 155,744	\$ 156,574	\$ 158,305	\$ 160,060	\$ 387,732	\$ 392,042	\$ 434,953	\$ 438,302	\$ 441,615	\$ 972
20										
21	\$ 831	\$ 1,731	\$ 1,755	\$ 1,872	\$ 4,310	\$ 3,911	\$ 3,348	\$ 3,313	\$ 4,740	\$ 9
22				\$ 225,800		\$ 39,000				\$ -
23										
24										
25								\$ (445,383)	\$ (981)	
26										
27	\$ 156,574	\$ 158,305	\$ 160,060	\$ 387,732	\$ 392,042	\$ 434,953	\$ 438,302	\$ 441,615	\$ 972	\$ -

Notes

1) The 2019 forecast assumes approval of the withdrawal of all funds from the RRTF and DCTF for the GSDP project the by the end of 2019.

Appendix B - Financial Schedules based on 2018 Actuals

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Revenue Requirements**

Schedule 4

Proposed Operating Margin ¹	9.50%
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Line No.		Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Projected 2018	With RRTF	NO RRTF
											Forecast 2019	Forecast 2019
1												
2	Fixed Operating Expenses	\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 500,750	\$ 476,750	\$ 476,750
3	Adjustment to recover 2018 Regulatory Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (19,631)	\$ 19,631	\$ 19,631
4	Total Fixed Operating Expenses	\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 481,119	\$ 496,381	\$ 496,381
5	Total Variable Costs	\$ 38,047	\$ 35,517	\$ 26,345	\$ 36,118	\$ 41,874	\$ 43,981	\$ 43,107	\$ 60,425	\$ 46,428	\$ 47,087	\$ 47,087
6	Total Operating Expenses for Rev. Req.	\$ 330,686	\$ 354,622	\$ 349,882	\$ 423,668	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 527,547	\$ 543,467	\$ 543,467
7	Income tax expense (recovery) ²	\$ (13,044)	\$ (19,586)	\$ (21,677)	\$ (32,920)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	Sub-total	\$ 317,642	\$ 335,036	\$ 328,205	\$ 390,748	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 527,547	\$ 543,467	\$ 543,467
9												
10	RRTF Contributions	\$ 89,167	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ -
11	Gross Revenue Requirements	\$ 406,809	\$ 435,036	\$ 428,205	\$ 490,748	\$ 579,443	\$ 501,291	\$ 529,665	\$ 570,666	\$ 627,547	\$ 643,467	\$ 543,467
12												
13	Operating Margin (Loss) ^{3,4}	\$ (70,533)	\$ (105,909)	\$ (117,216)	\$ (178,013)	\$ (264,590)	\$ (191,177)	\$ (204,342)	\$ (218,245)	\$ (238,277)	\$ 51,629	\$ 51,629
14	Net Revenue Req. with Operating Margin/Loss	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 314,853	\$ 310,114	\$ 325,323	\$ 352,421	\$ 389,270	\$ 695,096	\$ 595,096
15												
16	Total Revenue Received (2010-2018)	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 332,353	\$ 310,114	\$ 325,323	\$ 352,421	\$ 343,606		

Notes

1) The Utility proposes that the Operating Margin be calculated using the ROE allowed by the BCUC on the benchmark low risk utility (8.75%) plus the risk premium allowed for small TES utilities (0.75%). The proposed formula has been approved by the Comptroller through Decision and Order No. 2512 regarding CMUS's Cultus Lake Water utility. Approval of this proposal would result in consistency across CMUS's two water utilities.

2) Income tax expense (recovery) has been impacted as CMUS has been operating at a loss. No income tax expense is forecasted for Panorama Water in the near future as CMUS has built up a Tax-Loss Carry Forward balance that can be used to offset future taxes in each of its utilities.

3) 2010 to 2018 figures are actual figures. Negative figures show an Operating Loss. The 2018 figure is projected based on forecast expenses and revenue. The 2019 figures are forecasts.

4) The actual cumulative Operating Loss from 2010 through to 2018 is \$ (1,588,301)

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Calculation of Required Rates**

Schedule 5

Line No.		Actual ¹		% Breakdown		Calculations for % Breakdown for 2019 Rev. Req.	With RRTF	NO RRTF
		2017	2018	of 2017 Revenue	of 2018 Revenue		Forecast 2019	Proposed 2019
1	Total Revenue Requirement	\$ 352,421	\$ 389,270				\$ 695,096	\$ 595,096
2								
3	Number of bed units - Residential (bu)	1,996	2,030				2,058	2,058
4	Number of bed units - Commercial (bu)	2,438	2,438				2,438	2,438
5	Total Annual bu	4,434	4,468				4,496	4,496
6								
7	<u>Annual Usage (cu. meter)</u>							
8	Annual Usage - Residential	24,027	25,809				24,824	24,824
9	Annual Usage - Commercial	78,216	77,564				75,745	75,745
10	Total Annual Usage	102,243	103,373				100,569	100,569
11								
12	<u>Residential Revenue</u>							
13	Fixed Charges	\$ 69,934	\$ 69,426	20%	20%	21%	\$ 142,644	\$ 121,559
14	Variable Charges	\$ 42,528	\$ 45,682	12%	13%	13%	\$ 88,589	\$ 75,281
15	Standby Charges and Others ^{2,3}	\$ 8,745	\$ 7,830	2%	2%	See note 4	\$ 7,830	\$ 7,830
16	Total Residential Revenue	\$ 121,207	\$ 122,938	34%	36%	34%	\$ 239,062	\$ 204,670
17								
18	<u>Commercial Revenue</u>							
19	Fixed Charges	\$ 92,772	\$ 83,380	26%	24%	26%	\$ 182,978	\$ 156,654
20	Variable Charges	\$ 138,442	\$ 137,288	39%	40%	39%	\$ 273,056	\$ 233,773
21	Total Commercial Revenue	\$ 231,214	\$ 220,668	66%	64%	66%	\$ 456,034	\$ 390,427
22								
23	Total Revenue	\$ 352,421	\$ 343,606	100%	100%	100%	\$ 695,096	\$ 595,096
24								

Corix Multi-Utility Services Inc.
Panorama Water Utility
Calculation of Required Rates

Schedule 5

	Actual 2017	Projected 2018	With RRTF Forecast 2019	NO RRTF Proposed 2019
Calculation of Rates to obtain revenue required				
Residential Basic service charge per bed unit (bu) per month	\$ 2.85	\$ 2.85	\$ 5.78	\$ 4.92
Residential Metered Usage Rate (per cu. meter)	\$ 1.77	\$ 1.77	\$ 3.57	\$ 3.03
Commercial Basic service charge per bu per month	\$ 2.85	\$ 2.85	\$ 6.25	\$ 5.35
Commercial Metered Usage Rate (per cu. meter)	\$ 1.77	\$ 1.77	\$ 3.60	\$ 3.09
Availability of Service (Rent) Charge (per bu per annum)	\$ 45.00	\$ 45.00	\$ 45.00	\$ 45.00
Annual Rate Increase				
Basic service charge- Residential	N/A	0%	103%	73%
Residential Metered Usage Rate	N/A	0%	102%	71%
Basic service charge- Commercial	N/A	0%	119%	88%
Commercial Metered Usage Rate	N/A	0%	104%	74%
Availability of Service (Rent) Charge	N/A	0%	0%	0%

Notes

- 1) For 2017 and 2018 these figures represent the total revenue obtained from residential and commercial customers at existing rates
- 2) "Standby Charges and Others" include revenue from (i) Availability of Service fee; and (ii) Residential Connections Fee
- 3) The Utility forecasts no changes in the number of Standby (Rent) customers and proposes that no change be made to the the Availability of Service (Rent) Charge per bu per annum.
- 4) The Utility adjusted the calculations to adjust for Standby Revenue being forecasted to remain constant in 2019. The forecasted breakdown for revenue from residential fixed, variable and standby charges is 20%, 13% and 1% respectively for both scenarios ((i) With RRTF; and (ii) NO RRTF).
- 5) The proportion of revenue collected through fixed and variable charges for residential and commercial was set to be equal to the actual proportions collected in 2017, with an adjustment to accommodate the forecast revenue from Standby Charges. Further analysis of this breakdown will be reviewed in the subsequent rate application that incorporates costs associated with the GSDP project.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Consumption Deferral Account

Schedule 6

Line No.	Actual	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Number of bed units (bu)									
2	Residential bu	1,345	1,754	1,763	1,761	1,769	1,814	1,936	1,996	2,030
3	Commercial bu	2,556	2,543	2,471	2,360	2,342	2,346	2,462	2,438	2,438
4	Total Annual bu	3,901	4,297	4,234	4,121	4,111	4,160	4,397	4,434	4,468
5										
6	Consumption (cu. M)									
7	Annual Consumption - Residential	23,572	21,554	20,465	21,037	20,845	21,353	22,044	24,027	25,809
8	Annual Consumption - Commercial	94,195	70,256	66,982	75,897	76,348	69,405	72,107	78,216	77,564
9	Total Annual Consumption	117,767	91,810	87,447	96,934	97,193	90,758	94,151	102,243	103,373
10										
11	Calculated Consumption Rate (cu. M/bu)									
12	Calculated Avg. Consump. Rate - Residential	17.52	12.29	11.61	11.94	11.78	11.77	11.39	12.04	12.71
13	Calculated Avg. Consump. Rate - Commercial	36.86	27.63	27.10	32.16	32.61	29.59	29.29	32.08	31.81
14										
15	Approved^{1,2}	2010	2011	2012	2013	2014	2015	2016	2017	2018
16	Approved Average Consumption Rate (cu. M/bu)^{1,2}									
17	Average Consump. Rate - Residential	17.09	15.26	15.26	15.26	15.26	15.26	15.26	15.26	15.26
18	Average Consump. Rate - Commercial	41.37	41.37	41.37	41.37	41.37	41.37	41.37	41.37	41.37
19										
20	Water Consumption Rate	2010	2011	2012	2013	2014	2015	2016	2017	2018
21	Water Consumption Rate - Res. (\$/CuM)	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77
22	Water Consumption Rate - Comm.(\$/CuM)	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77
23										
24	Revenue Variance due to Consumption Variance	2010	2011	2012	2013	2014	2015	2016	2017	2018
25	Residential Consump. Revenue Variance	\$ 1,024.86	\$ (9,244.29)	\$ (11,409.94)	\$ (10,350.30)	\$ (10,905.14)	\$ (11,217.21)	\$ (13,281.12)	\$ (11,398.94)	\$ (9,161.10)
26	Commercial Consump. Revenue Variance	\$ (20,422.43)	\$ (61,878.55)	\$ (62,425.16)	\$ (38,467.92)	\$ (36,339.25)	\$ (48,933.50)	\$ (52,633.79)	\$ (40,099.88)	\$ (41,253.92)
27	Total Consump. Revenue Variance	\$ (19,398)	\$ (71,123)	\$ (73,835)	\$ (48,818)	\$ (47,244)	\$ (60,151)	\$ (65,915)	\$ (51,499)	\$ (50,415)
28										
29	Accumulated Consumption Deferral Account Balance	\$ (19,398)	\$ (90,520)	\$ (164,356)	\$ (213,174)	\$ (260,418)	\$ (320,569)	\$ (386,484)	\$ (437,983)	\$ (488,398)
30										

Notes

1) In the 2010 Rate Application the Office of the Comptroller approved forecast consumption based on an average consumption rate equivalent to 15.26 cu. M/bu for Residential customers and 41.37 cu. M/bu for Commercial customers. These figures were held constant during the period 2012 through to 2018.

2) 2010 and 2011 forecasts were approved in Order No. 2232 regarding the 2010 Panorama Rate Application

3) 2018 Actual figures include actuals from Jan 1 to Dec 31.

4) The revenue variance was calculated by multiplying the actual number of bed units by the difference between the actual consumption and the forecast consumption and then multiplying that product by the Water consumption rate. This was done so as to eliminate any revenue variance associated with the variance between the forecast number of bed units and the actual number of bed unit

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Consumption Deferral Rate Rider**

Schedule 7

Line No.		Forecast		
		2019	2020	2021
1	Forecast Annual Consumption (cu. meter)			
2	Annual Consumption - Residential	24,824	25,323	25,477
3	Annual Consumption - Commercial	75,745	77,124	76,811
4	Total Annual Consumption	100,569	102,447	102,288
5				
6	Calculation of rate rider to recover deferral account balance			
7	Accumulated Consumption Deferral Account Balance			
8	As at January 1st	\$ (488,397.60)	\$ -	\$ -
9	Rate Rider (1 year recovery) (per cu. meter)	\$ 4.86	\$ -	\$ -
10	Revenue from Rate Rider	\$ 488,397.60	\$ -	\$ -
11	Accumulated Consumption Deferral Account Balance	\$ -	\$ -	\$ -
12				
13	Accumulated Consumption Deferral Account Balance			
14	As at January 1st	\$ (488,397.60)	\$ (244,198.80)	\$ -
15	Rate Rider (2 year recovery) (per cu. meter)	\$ 2.43	\$ 2.38	\$ -
16	Revenue from Rate Rider	\$ 244,198.80	\$ 244,198.80	\$ -
17	Accumulated Consumption Deferral Account Balance	\$ (244,198.80)	\$ -	\$ -
18				
19	Accumulated Consumption Deferral Account Balance			
20	As at January 1st	\$ (488,397.60)	\$ (325,598.40)	\$ (162,799.20)
21	Rate Rider (3 year recovery) (per cu. meter)	\$ 1.62	\$ 1.59	\$ 1.59
22	Revenue from Rate Rider	\$ 162,799.20	\$ 162,799.20	\$ 162,799.20
23	Accumulated Consumption Deferral Account Balance	\$ (325,598.40)	\$ (162,799.20)	\$ -

Notes

1) The calculation of the consumption deferral rate rider assumes no addition to the Accumulated Consumption Deferral in 2019 due to this Water Rate Application and a change in rates.

2) The 2020 and 2021 forecast figures were developed using a rolling 3-year average of the consumption per bed unit and the number of bed units on a monthly basis. The monthly average forecasts were then totalled to obtain the annual consumption forecast.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Residential Customer Bill Impact**

Average No. of bed units (bu) per customer ¹	6.95 bu per cus.
Average consumption per customer ²	83.72 cu. M. per cus.

Line No.

Residential Customer Bill Impact (with RRTF Contributions)								
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total
1 Residential - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 237.86	\$ 148.18	\$ -	\$ 386.04	\$ 32.17
2 Required Rates (No Rate Rider)	\$ 5.78	\$ 3.57	\$ -	\$ 482.06	\$ 298.76	\$ -	\$ 780.82	\$ 65.07
3 Year-over-Year Change	103%	102%		103%	102%		102%	102%
4 Required Rates (and 1 yr Rate Rider)	\$ 5.78	\$ 3.57	\$ 4.86	\$ 482.06	\$ 298.76	\$ 406.56	\$ 1,187.39	\$ 98.95
5 Year-over-Year Change	103%	102%		103%	102%		208%	208%
6 Required Rates (and 2 yrs Rate Rider)	\$ 5.78	\$ 3.57	\$ 2.43	\$ 482.06	\$ 298.76	\$ 203.28	\$ 984.10	\$ 82.01
7 Year-over-Year Change	103%	102%		103%	102%		155%	155%
8 Required Rates (and 3 yrs Rate Rider)	\$ 5.78	\$ 3.57	\$ 1.62	\$ 482.06	\$ 298.76	\$ 135.52	\$ 916.34	\$ 76.36
9 Year-over-Year Change	103%	102%		103%	102%		137%	137%

Residential Customer Bill Impact (No RRTF)								
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total
15 Residential - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 237.86	\$ 148.18	\$ -	\$ 386.04	\$ 32.17
16 Required Rates (No Rate Rider)	\$ 4.92	\$ 3.03	\$ -	\$ 410.81	\$ 253.88	\$ -	\$ 664.69	\$ 55.39
17 Year-over-Year Change	73%	71%		73%	71%		72%	72%
18 Required Rates (and 1 yr Rate Rider)	\$ 4.92	\$ 3.03	\$ 4.86	\$ 410.81	\$ 253.88	\$ 406.56	\$ 1,071.25	\$ 89.27
19 Year-over-Year Change	73%	71%		73%	71%		177%	177%
20 Required Rates (and 2 yrs Rate Rider)	\$ 4.92	\$ 3.03	\$ 2.43	\$ 410.81	\$ 253.88	\$ 203.28	\$ 867.97	\$ 72.33
21 Year-over-Year Change	73%	71%		73%	71%		125%	125%
22 Required Rates (and 3 yrs Rate Rider)	\$ 4.92	\$ 3.03	\$ 1.62	\$ 410.81	\$ 253.88	\$ 135.52	\$ 800.21	\$ 66.68
23 Year-over-Year Change	73%	71%		73%	71%		107%	107%

Notes

1) Default residential single family dwelling is 10 bed units as outlined in the tariff; however the average bed units per customer ranged from 5.12 bu in 2010 to 6.95 bu in 2017. The 2017 average number of bed units per customer was used to determine the impact of the proposed rates.

2) Average usage for residential customers based on the total metered usage and the average customer count for that 2017.

3) Excludes any applicable taxes.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Commercial Customer Bill Impact**

Average No. of bed units (bu) per customer ¹	65.89 bu per cus.
Average consumption per customer ²	2113.95 cu. M. per cus.

Commercial Customer Bill Impact (with RRTF Contributions)										
Line No.	Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³			2019 Monthly Bill ³		
		\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total	
1	Commercial - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 2,253.50	\$ 3,741.68	\$ -	\$ 5,995.19	\$ 499.60	
2	Required Rates (No Rate Rider)	\$ 6.25	\$ 3.60	\$ -	\$ 4,945.35	\$ 7,620.67	\$ -	\$ 12,566.02	\$ 1,047.17	
3	Year-over-Year Change	119%	104%		119%	104%		110%	110%	
4	Required Rates (and 1 yr Rate Rider)	\$ 6.25	\$ 3.60	\$ 4.86	\$ 4,945.35	\$ 7,620.67	\$ 10,266.06	\$ 22,832.08	\$ 1,902.67	
5	Year-over-Year Change	119%	104%		119%	104%		281%	281%	
6	Required Rates (and 2 yrs Rate Rider)	\$ 6.25	\$ 3.60	\$ 2.43	\$ 4,945.35	\$ 7,620.67	\$ 5,133.03	\$ 17,699.05	\$ 1,474.92	
7	Year-over-Year Change	119%	104%		119%	104%		195%	195%	
8	Required Rates (and 3 yrs Rate Rider)	\$ 6.25	\$ 3.60	\$ 1.62	\$ 4,945.35	\$ 7,620.67	\$ 3,422.02	\$ 15,988.04	\$ 1,332.34	
9	Year-over-Year Change	119%	104%		119%	104%		167%	167%	
10										
11										
12	Commercial Customer Bill Impact (No RRTF)									
Line No.	Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³			2019 Monthly Bill ³		
		\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total	
13	Commercial - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 2,253.50	\$ 3,741.68	\$ -	\$ 5,995.19	\$ 499.60	
14	Required Rates (No Rate Rider)	\$ 5.35	\$ 3.09	\$ -	\$ 4,233.89	\$ 6,524.32	\$ -	\$ 10,758.21	\$ 896.52	
15	Year-over-Year Change	88%	74%		88%	74%		79%	79%	
16	Required Rates (and 1 yr Rate Rider)	\$ 5.35	\$ 3.09	\$ 4.86	\$ 4,233.89	\$ 6,524.32	\$ 10,266.06	\$ 21,024.27	\$ 1,752.02	
17	Year-over-Year Change	88%	74%		88%	74%		251%	251%	
18	Required Rates (and 2 yrs Rate Rider)	\$ 5.35	\$ 3.09	\$ 2.43	\$ 4,233.89	\$ 6,524.32	\$ 5,133.03	\$ 15,891.24	\$ 1,324.27	
19	Year-over-Year Change	88%	74%		88%	74%		165%	165%	
20	Required Rates (and 3 yrs Rate Rider)	\$ 5.35	\$ 3.09	\$ 1.62	\$ 4,233.89	\$ 6,524.32	\$ 3,422.02	\$ 14,180.23	\$ 1,181.69	
21	Year-over-Year Change	88%	74%		88%	74%		137%	137%	
22										
23										

Notes

1) Average bed units per customer ranged from 65.53 bu in 2010 up to a peak of 72.40 in 2016 before settling at 65.89 bu in 2017. The 2017 average number of bed units per customer was used to determine the impact of the proposed rates.

2) Average usage for commercial customers based on the total metered usage and the average customer count for that 2017.

3) Excludes any applicable taxes.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Corporate Services Overhead Breakdown

Schedule 10

Line No.	Corporate Services Overhead	Actual 2018	Forecast 2019
1	Wages and Benefits	\$ 173,812	\$ 177,289
2	Administration/Office	\$ 32,521	\$ 33,172
3	IT and Other Expenses	\$ 23,964	\$ 24,444
4	Consulting	\$ 16,834	\$ 17,170
5	Vehicle/Travel/Training	\$ 7,538	\$ 7,689
6			
7	Total Corporate Services Overhead	\$ 254,670	\$ 259,764

APPENDIX C:
**Financial Schedules Updated with 2018 Actuals
and using 2019 Corporate Services Cost based on
new Corporate cost allocation methodology**

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Inflation Rate ¹	2.00%
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Line No.	Expense	Cost Type	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018 ⁶	Forecast 2019
1												
2	Cost of Goods Sold											
3	Chlorine and Supplies	Variable	\$ 3,303	\$ 2,981	\$ 2,498	\$ 2,354	\$ 4,042	\$ 8,020	\$ 2,889	\$ 6,532	\$ 4,643	\$ 4,736
4	Contracting	Variable	\$ 3,985	\$ 5,287	\$ 28	\$ 3,821	\$ 901	\$ 1,541	\$ 1,033	\$ 1,547	\$ 67	\$ 68
5	Billing & Customer Care	Variable	\$ 13,487	\$ 9,088	\$ 9,021	\$ 9,545	\$ 8,265	\$ 9,412	\$ 9,782	\$ 11,200	\$ 13,499	\$ 13,499
6	Water testing	Fixed	\$ 12,836	\$ 13,460	\$ 7,404	\$ 3,469	\$ 3,510	\$ 3,372	\$ 4,553	\$ 3,879	\$ 4,809	\$ 4,905
7	Wages - Operators	Fixed	\$ 57,205	\$ 59,246	\$ 62,065	\$ 83,974	\$ 84,394	\$ 84,873	\$ 89,625	\$ 90,993	\$ 101,069	\$ 103,090
8	Utilities	Variable	\$ 13,910	\$ 13,564	\$ 12,441	\$ 15,319	\$ 17,335	\$ 19,275	\$ 19,925	\$ 29,477	\$ 20,560	\$ 20,971
9	Total Cost of Goods Sold		\$ 104,726	\$ 103,628	\$ 93,456	\$ 118,481	\$ 118,447	\$ 126,493	\$ 127,807	\$ 143,628	\$ 144,647	\$ 147,270
10												
11	Selling, General and Administration Expenses											
12	Advertising	Fixed	\$ -	\$ -	\$ 132	\$ -	\$ -	\$ -	\$ 140	\$ 581	\$ 74	\$ 150
13	Accounting	Fixed	\$ 8,500	\$ 8,500	\$ 8,649	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
14	Vehicles/Travel	Fixed	\$ 20,965	\$ 25,998	\$ 24,582	\$ 19,723	\$ 19,836	\$ 24,625	\$ 26,634	\$ 24,423	\$ 27,416	\$ 27,964
15	Freight	Variable	\$ 1,321	\$ 1,593	\$ 1,187	\$ 326	\$ 1,635	\$ 474	\$ 1,755	\$ 2,160	\$ 1,690	\$ 1,724
16	Insurance	Fixed	\$ 4,519	\$ 4,317	\$ 3,823	\$ 2,853	\$ 2,417	\$ 3,440	\$ 2,767	\$ 2,945	\$ 6,105	\$ 6,227
17	Wages - Administration ²	Fixed	\$ 10,597	\$ 11,083	\$ 11,397	\$ 8,076	\$ 13,261	\$ 14,497	\$ 34,554	\$ 43,408	\$ 40,368	\$ 7,279
18	Licenses and Permits	Fixed	\$ 834	\$ 566	\$ 591	\$ 507	\$ 1,067	\$ 589	\$ 839	\$ 904	\$ 939	\$ 958
19	Hydrant maintenance	Fixed	\$ 13,899	\$ 7,739	\$ 4,121	\$ -	\$ -	\$ -	\$ 255	\$ -	\$ -	\$ -
20	Repairs and maintenance	Fixed	\$ 11,824	\$ 17,644	\$ 2,081	\$ 20,376	\$ 57,676	\$ 2,703	\$ 15,722	\$ 6,764	\$ 10,538	\$ 10,749
21	Office expenses	Fixed	\$ 8,584	\$ 14,236	\$ 14,287	\$ 20,326	\$ 14,955	\$ 39,669	\$ 26,280	\$ 26,194	\$ 22,014	\$ 22,454
22	Shop supplies	Variable	\$ 2,041	\$ 3,003	\$ 1,170	\$ 4,754	\$ 9,696	\$ 5,259	\$ 7,723	\$ 9,509	\$ 5,969	\$ 6,088
23	Training	Fixed	\$ 5,628	\$ 4,536	\$ 7,099	\$ 8,478	\$ 7,271	\$ 4,473	\$ 3,960	\$ 6,769	\$ 4,617	\$ 4,709
24	Bad Debt	Fixed	\$ 6,614	\$ 135	\$ 671	\$ (160)	\$ 85	\$ 300	\$ 4	\$ -	\$ -	\$ -
25	Corporate Services ^{3,4}	Fixed	\$ 130,634	\$ 151,646	\$ 176,635	\$ 211,428	\$ 224,597	\$ 170,270	\$ 172,725	\$ 194,881	\$ 254,670	\$ 63,993
26	Regulatory Costs ⁵	Fixed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,631	\$ 20,000
27	Total selling, general and administration		\$ 225,960	\$ 250,994	\$ 256,426	\$ 305,186	\$ 360,996	\$ 274,798	\$ 301,858	\$ 327,038	\$ 402,531	\$ 180,796
28												
29	Total Expenditures		\$ 330,686	\$ 354,622	\$ 349,882	\$ 423,668	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 547,178	\$ 328,066
30												
31	Cost Analysis											
32	Total Fixed Operating Expenses		\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 500,750	\$ 280,979
33	Total Variable Costs		\$ 38,047	\$ 35,517	\$ 26,345	\$ 36,118	\$ 41,874	\$ 43,981	\$ 43,107	\$ 60,425	\$ 46,428	\$ 47,087
34												
35	Fixed Operating Expenses as percentage of Total Expenses		88.5%	90.0%	92.5%	91.5%	91.3%	89.0%	90.0%	87.2%	91.5%	85.6%
36	Variable Costs as percentage of Total Expenses		11.5%	10.0%	7.5%	8.5%	8.7%	11.0%	10.0%	12.8%	8.5%	14.4%

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Operating and Maintenance Expenses

Notes

- 1) Inflation is set to the Bank of Canada's target inflation rate. Expenses for 2019 escalated from 2018 Projected figures based on the target inflation rate, except for (i) Billing and Customer Care; (ii) Advertising; (iii) Accounting; (iv) Wages - Administration and (v) Regulatory Costs
- 2) The 2019 forecast for Wages-Administration has been reduced by \$22,500 to account for Corix Administration Costs of \$2,500 per month associated with the administrative costs of managing the GSDP project. The \$2,500 per month of Administration Costs were approved through Order No. 2531 which addressed the final cost estimate for the GSDP project. The Utility will request to recover these costs in the subsequent rate application to be filed in 2019.
- 3) A modified Massachusetts Formula was used from 2010 through to 2018 to allocate Corporate Services charges to Panorama Water Utility. The Massachusetts Formula allocates costs based on an arithmetical average of: operating revenue, payroll, and average net book value of tangible capital assets plus inventories. The corporate service charges are overhead costs incurred by Corix, the parent company of Corix Multi-Utility Services Inc., in the course of managing it's utility business. In 2019 Corix replaced the previous version of the Massachusetts Formula with a new version resulting in a change to how the Corporate overhead costs are allocated to each utility.
- 4) Removed***
- 5) Regulatory costs were incurred during the preparation of this rate application in 2018. The costs have been shown in both 2018 and 2019 to reflect the timing of when the expenses will occur. 2019 forecast figures includes \$8,000 for any consultant(s) that the Comptroller might hire for the review of this application. The Utility proposes to recover the total regulatory costs through rates effective January 1, 2019. This adjustment to include 2018 regulatory costs in the 2019 O&M forecast is shown in Schedule 3. These regulatory costs presented here do not include costs associated with the preparation of the subsequent application for rates to be filed in 2019.
- 6) Actual 2018 figures from January 1 to December 31st, 2018.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Revenues

Schedule 2

Line No.	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	
1											
2	Number of Customers (Average per year)										
3	Residential - metered	263	263	263	263	263	274	283	287	290	291
4	Commercial	39	36	35	33	33	34	34	37	37	37
5	Total metered customers	302	299	298	296	296	308	317	324	327	328
6											
7	Residential - unmetered ¹	37	37	37	36	37	40	31	30	29	29
8	Total Customers	339	336	335	332	333	348	348	354	356	357
9											
10	Average Annual Number of bed units (bu)										
11	Residential bu	1,345	1,754	1,763	1,761	1,769	1,814	1,936	1,996	2,030	2,058
12	Commercial bu	2,556	2,543	2,471	2,360	2,342	2,346	2,462	2,438	2,438	2,438
13	Total Annual bu	3,901	4,297	4,234	4,121	4,111	4,160	4,397	4,434	4,468	4,496
14											
15	Annual Consumption (cu. M)										
16	Annual Consumption - Residential	23,572	21,554	20,465	21,037	20,845	21,353	22,044	24,027	25,809	24,824
17	Annual Consumption - Commercial	94,195	70,256	66,982	75,897	76,348	69,405	72,107	78,216	77,564	75,745
18	Total Annual Consumption	117,767	91,810	87,447	96,934	97,193	90,758	94,151	102,243	103,373	100,569
19											
20	Sales Revenue										
21	Residential - Basic Charge (excl. accruals)	\$ 44,224	\$ 59,997	\$ 60,299	\$ 60,239	\$ 60,511	\$ 62,045	\$ 66,206	\$ 68,266	\$ 69,426	
22	Residential - Usage (excl. accruals)	\$ 41,722	\$ 38,151	\$ 36,223	\$ 37,235	\$ 36,896	\$ 37,795	\$ 39,018	\$ 42,528	\$ 45,682	
23	Residential Sales Revenue (excl. accruals)	\$ 85,946	\$ 98,148	\$ 96,522	\$ 97,475	\$ 97,407	\$ 99,839	\$ 105,223	\$ 110,794	\$ 115,108	
24											
25	Commercial - Basic Charge (excl. accruals)	\$ 84,746	\$ 86,971	\$ 84,520	\$ 80,701	\$ 80,079	\$ 80,222	\$ 84,183	\$ 83,380	\$ 83,380	
26	Commercial - Usage (excl. accruals)	\$ 166,725	\$ 124,353	\$ 118,558	\$ 134,338	\$ 135,136	\$ 122,847	\$ 127,629	\$ 138,442	\$ 137,288	
27	Commercial Sales Revenue (excl. accruals)	\$ 251,470	\$ 211,324	\$ 203,078	\$ 215,038	\$ 215,215	\$ 203,069	\$ 211,813	\$ 221,822	\$ 220,668	
28											
29	Accruals - Residential	\$ (2,503)	\$ 403	\$ (28)	\$ (2,076)	\$ 1,044	\$ (1,072)	\$ 1,424	\$ 1,668	\$ -	
30	Accruals - Commercial	\$ (8,917)	\$ 8,049	\$ (253)	\$ (8,037)	\$ 7,949	\$ (2,567)	\$ (3,160)	\$ 9,392	\$ -	
31	Total Accruals ^{2,3}	\$ (11,420)	\$ 8,452	\$ (281)	\$ (10,113)	\$ 8,993	\$ (3,639)	\$ (1,736)	\$ 11,060	\$ -	
32											
33	Total Sales Revenue	\$ 325,996	\$ 317,924	\$ 299,319	\$ 302,400	\$ 321,615	\$ 299,269	\$ 315,300	\$ 343,676	\$ 335,776	
34											
35	Other Revenue										
36	Residential - Availability of Service (Rent) Charges	\$ 9,250	\$ 10,823	\$ 9,990	\$ 9,900	\$ 10,083	\$ 9,995	\$ 9,213	\$ 8,170	\$ 7,830	
37	Residential Connection Fees	\$ 550	\$ 380	\$ 615	\$ 255	\$ 475	\$ 850	\$ 810	\$ 575	\$ -	
38	Residential - Other Income	\$ 480	\$ -	\$ 1,065	\$ 180	\$ 180	\$ -	\$ -	\$ -	\$ -	
39											
40	Total Revenue	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 332,353	\$ 310,114	\$ 325,323	\$ 352,421	\$ 343,606	
41											
42	Total Residential Revenue	\$ 93,723	\$ 109,754	\$ 108,164	\$ 105,734	\$ 109,189	\$ 109,612	\$ 116,670	\$ 121,207	\$ 122,938	
43	Total Commercial Revenue	\$ 242,553	\$ 219,373	\$ 202,825	\$ 207,001	\$ 223,164	\$ 200,502	\$ 208,653	\$ 231,214	\$ 220,668	

Corix Multi-Utility Services Inc.
Panorama Water Utility
Schedule of Revenues

Schedule 2

Notes

1. These are "Availability of Service" customers, also known as Rent (Standby) Customers.
2. Accruals occur due to the timing of the generation of the bill and the allowed payment period. For example, a customer's use for December is billed in January of the following year and the payment deadline would occur in February. Due to this delay accrual adjustments are made. The accrual figures shown here represent the aggregate accrual adjustments throughout the year.
3. Corix does not forecast accruals.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Reserve Trust Fund Summary

Line No.	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Projected 2018	Forecast ¹ 2019
1										
2	Replacement Reserve Trust Fund (RRTF)									
3	\$ 232,034	\$ 297,556	\$ 374,654	\$ 479,189	\$ 256,901	\$ 360,133	\$ 436,439	\$ 348,282	\$ 451,223	\$ 16,876
4										
5	\$ 1,355	\$ 3,471	\$ 4,535	\$ 5,275	\$ 3,232	\$ 3,696	\$ 3,554	\$ 2,941	\$ 3,226	\$ -
6										
7										
8	Replacement Reserve:									
9	\$ 89,167	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ -
10										
11										
12										
13										
14	\$ (25,000)	\$ (26,372)	\$ -	\$ (327,563)	\$ -	\$ (27,389)	\$ (191,712)	\$ -	\$ (537,574)	\$ (16,876)
15										
16	\$ 297,556	\$ 374,654	\$ 479,189	\$ 256,901	\$ 360,133	\$ 436,439	\$ 348,282	\$ 451,223	\$ 16,876	\$ -
17										
18	Deferred Capacity Trust Fund (DCTF)									
19	\$ 155,744	\$ 156,574	\$ 158,305	\$ 160,060	\$ 387,732	\$ 392,042	\$ 434,953	\$ 438,302	\$ 441,615	\$ 972
20										
21	\$ 831	\$ 1,731	\$ 1,755	\$ 1,872	\$ 4,310	\$ 3,911	\$ 3,348	\$ 3,313	\$ 4,740	\$ 9
22				\$ 225,800		\$ 39,000				\$ -
23										
24										
25								\$ (445,383)	\$ (981)	
26										
27	\$ 156,574	\$ 158,305	\$ 160,060	\$ 387,732	\$ 392,042	\$ 434,953	\$ 438,302	\$ 441,615	\$ 972	\$ -

Notes

1) The 2019 forecast assumes approval of the withdrawal of all funds from the RRTF and DCTF for the GSDP project the by the end of 2019.

Appendix C - Financial Schedules based on 2018 Actuals and New Corporate Services Cost Approach

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Revenue Requirements**

Schedule 4

Proposed Operating Margin ¹	9.50%
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Line No.		Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Projected 2018	With RRTF	NO RRTF
											Forecast 2019	Forecast 2019
1												
2	Fixed Operating Expenses	\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 500,750	\$ 280,979	\$ 280,979
3	Adjustment to recover 2018 Regulatory Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (19,631)	\$ 19,631	\$ 19,631
4	Total Fixed Operating Expenses	\$ 292,639	\$ 319,104	\$ 323,537	\$ 387,550	\$ 437,568	\$ 357,311	\$ 386,558	\$ 410,241	\$ 481,119	\$ 300,610	\$ 300,610
5	Total Variable Costs	\$ 38,047	\$ 35,517	\$ 26,345	\$ 36,118	\$ 41,874	\$ 43,981	\$ 43,107	\$ 60,425	\$ 46,428	\$ 47,087	\$ 47,087
6	Total Operating Expenses for Rev. Req.	\$ 330,686	\$ 354,622	\$ 349,882	\$ 423,668	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 527,547	\$ 347,697	\$ 347,697
7	Income tax expense (recovery) ²	\$ (13,044)	\$ (19,586)	\$ (21,677)	\$ (32,920)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	Sub-total	\$ 317,642	\$ 335,036	\$ 328,205	\$ 390,748	\$ 479,443	\$ 401,291	\$ 429,665	\$ 470,666	\$ 527,547	\$ 347,697	\$ 347,697
9												
10	RRTF Contributions	\$ 89,167	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ -
11	Gross Revenue Requirements	\$ 406,809	\$ 435,036	\$ 428,205	\$ 490,748	\$ 579,443	\$ 501,291	\$ 529,665	\$ 570,666	\$ 627,547	\$ 447,697	\$ 347,697
12												
13	Operating Margin (Loss) ^{3,4}	\$ (70,533)	\$ (105,909)	\$ (117,216)	\$ (178,013)	\$ (264,590)	\$ (191,177)	\$ (204,342)	\$ (218,245)	\$ (238,277)	\$ 33,031	\$ 33,031
14	Net Revenue Req. with Operating Margin/Loss	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 314,853	\$ 310,114	\$ 325,323	\$ 352,421	\$ 389,270	\$ 480,728	\$ 380,728
15												
16	Total Revenue Received (2010-2018)	\$ 336,276	\$ 329,127	\$ 310,989	\$ 312,735	\$ 332,353	\$ 310,114	\$ 325,323	\$ 352,421	\$ 343,606		

Notes

1) The Utility proposes that the Operating Margin be calculated using the ROE allowed by the BCUC on the benchmark low risk utility (8.75%) plus the risk premium allowed for small TES utilities (0.75%). The proposed formula has been approved by the Comptroller through Decision and Order No. 2512 regarding CMUS's Cultus Lake Water utility. Approval of this proposal would result in consistency across CMUS's two water utilities.

2) Income tax expense (recovery) has been impacted as CMUS has been operating at a loss. No income tax expense is forecasted for Panorama Water in the near future as CMUS has built up a Tax-Loss Carry Forward balance that can be used to offset future taxes in each of its utilities.

3) 2010 to 2018 figures are actual figures. Negative figures show an Operating Loss. The 2018 figure is projected based on forecast expenses and revenue. The 2019 figures are forecasts.

4) The actual cumulative Operating Loss from 2010 through to 2018 is \$ (1,588,301)

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Calculation of Required Rates**

Schedule 5

Line No.		Actual ¹ 2017	% Breakdown of 2017 Revenue	Projected 2018	% Breakdown of 2018 Revenue	Calculations for % Breakdown for 2019 Rev. Req.	With RRTF	NO RRTF
							Forecast 2019	Proposed 2019
1	Total Revenue Requirement	\$ 352,421		\$ 389,270			\$ 480,728	\$ 380,728
2								
3	Number of bed units - Residential (bu)	1,996		2,030			2,058	2,058
4	Number of bed units - Commercial (bu)	2,438		2,438			2,438	2,438
5	Total Annual bu	4,434		4,468			4,496	4,496
6								
7	<u>Annual Usage (cu. meter)</u>							
8	Annual Usage - Residential	24,027		25,809			24,824	24,824
9	Annual Usage - Commercial	78,216		77,564			75,745	75,745
10	Total Annual Usage	102,243		103,373			100,569	100,569
11								
12	<u>Residential Revenue</u>							
13	Fixed Charges	\$ 69,934	20%	\$ 69,426	20%	21%	\$ 97,445	\$ 76,360
14	Variable Charges	\$ 42,528	12%	\$ 45,682	13%	13%	\$ 60,060	\$ 46,752
15	Standby Charges and Others ^{2,3}	\$ 8,745	2%	\$ 7,830	2%	See note 4	\$ 7,830	\$ 7,830
16	Total Residential Revenue	\$ 121,207	34%	\$ 122,938	36%	34%	\$ 165,335	\$ 130,942
17								
18	<u>Commercial Revenue</u>							
19	Fixed Charges	\$ 92,772	26%	\$ 83,380	24%	26%	\$ 126,547	\$ 100,223
20	Variable Charges	\$ 138,442	39%	\$ 137,288	40%	39%	\$ 188,845	\$ 149,562
21	Total Commercial Revenue	\$ 231,214	66%	\$ 220,668	64%	66%	\$ 315,393	\$ 249,785
22								
23	Total Revenue	\$ 352,421	100%	\$ 343,606	100%	100%	\$ 480,728	\$ 380,728
24								

Corix Multi-Utility Services Inc.
Panorama Water Utility
Calculation of Required Rates

Schedule 5

	Actual 2017	Projected 2018	With RRTF Forecast 2019	NO RRTF Proposed 2019
Calculation of Rates to obtain revenue required				
Residential Basic service charge per bed unit (bu) per month	\$ 2.85	\$ 2.85	\$ 3.95	\$ 3.09
Residential Metered Usage Rate (per cu. meter)	\$ 1.77	\$ 1.77	\$ 2.42	\$ 1.88
Commercial Basic service charge per bu per month	\$ 2.85	\$ 2.85	\$ 4.33	\$ 3.43
Commercial Metered Usage Rate (per cu. meter)	\$ 1.77	\$ 1.77	\$ 2.49	\$ 1.97
Availability of Service (Rent) Charge (per bu per annum)	\$ 45.00	\$ 45.00	\$ 45.00	\$ 45.00
Annual Rate Increase				
Basic service charge- Residential	N/A	0%	38%	8%
Residential Metered Usage Rate	N/A	0%	37%	6%
Basic service charge- Commercial	N/A	0%	52%	20%
Commercial Metered Usage Rate	N/A	0%	41%	12%
Availability of Service (Rent) Charge	N/A	0%	0%	0%

Notes

- 1) For 2017 these figures represent the total revenue obtained from residential and commercial customers at existing rates
- 2) "Standby Charges and Others" include revenue from (i) Availability of Service fee; and (ii) Residential Connections Fee
- 3) The Utility forecasts no changes in the number of Standby (Rent) customers and proposes that no change be made to the the Availability of Service (Rent) Charge per bu per annum.
- 4) The Utility adjusted the calculations to adjust for Standby Revenue being forecasted to remain constant in 2019. The forecasted breakdown for revenue from residential fixed, variable and standby charges is 20%, 13% and 1% respectively for both scenarios ((i) With RRTF; and (ii) NO RRTF).
- 5) The proportion of revenue collected through fixed and variable charges for residential and commercial was set to be equal to the actual proportions collected in 2017, with an adjustment to accommodate the forecast revenue from Standby Charges. Further analysis of this breakdown will be reviewed in the subsequent rate application that incorporates costs associated with the GSDP project.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Consumption Deferral Account

Schedule 6

Line No.	Actual	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Number of bed units (bu)									
2	Residential bu	1,345	1,754	1,763	1,761	1,769	1,814	1,936	1,996	2,030
3	Commercial bu	2,556	2,543	2,471	2,360	2,342	2,346	2,462	2,438	2,438
4	Total Annual bu	3,901	4,297	4,234	4,121	4,111	4,160	4,397	4,434	4,468
5										
6	Consumption (cu. M)									
7	Annual Consumption - Residential	23,572	21,554	20,465	21,037	20,845	21,353	22,044	24,027	25,809
8	Annual Consumption - Commercial	94,195	70,256	66,982	75,897	76,348	69,405	72,107	78,216	77,564
9	Total Annual Consumption	117,767	91,810	87,447	96,934	97,193	90,758	94,151	102,243	103,373
10										
11	Calculated Consumption Rate (cu. M/bu)									
12	Calculated Avg. Consump. Rate - Residential	17.52	12.29	11.61	11.94	11.78	11.77	11.39	12.04	12.71
13	Calculated Avg. Consump. Rate - Commercial	36.86	27.63	27.10	32.16	32.61	29.59	29.29	32.08	31.81
14										
15	Approved^{1,2}	2010	2011	2012	2013	2014	2015	2016	2017	2018
16	Approved Average Consumption Rate (cu. M/bu)^{1,2}									
17	Average Consump. Rate - Residential	17.09	15.26	15.26	15.26	15.26	15.26	15.26	15.26	15.26
18	Average Consump. Rate - Commercial	41.37	41.37	41.37	41.37	41.37	41.37	41.37	41.37	41.37
19										
20	Water Consumption Rate	2010	2011	2012	2013	2014	2015	2016	2017	2018
21	Water Consumption Rate - Res. (\$/CuM)	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77
22	Water Consumption Rate - Comm.(\$/CuM)	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77	\$ 1.77
23										
24	Revenue Variance due to Consumption Variance	2010	2011	2012	2013	2014	2015	2016	2017	2018
25	Residential Consump. Revenue Variance	\$ 1,024.86	\$ (9,244.29)	\$ (11,409.94)	\$ (10,350.30)	\$ (10,905.14)	\$ (11,217.21)	\$ (13,281.12)	\$ (11,398.94)	\$ (9,161.10)
26	Commercial Consump. Revenue Variance	\$ (20,422.43)	\$ (61,878.55)	\$ (62,425.16)	\$ (38,467.92)	\$ (36,339.25)	\$ (48,933.50)	\$ (52,633.79)	\$ (40,099.88)	\$ (41,253.92)
27	Total Consump. Revenue Variance	\$ (19,398)	\$ (71,123)	\$ (73,835)	\$ (48,818)	\$ (47,244)	\$ (60,151)	\$ (65,915)	\$ (51,499)	\$ (50,415)
28										
29	Accumulated Consumption Deferral Account Balance	\$ (19,398)	\$ (90,520)	\$ (164,356)	\$ (213,174)	\$ (260,418)	\$ (320,569)	\$ (386,484)	\$ (437,983)	\$ (488,398)
30										

Notes

1) In the 2010 Rate Application the Office of the Comptroller approved forecast consumption based on an average consumption rate equivalent to 15.26 cu. M/bu for Residential customers and 41.37 cu. M/bu for Commercial customers. These figures were held constant during the period 2012 through to 2018.

2) 2010 and 2011 forecasts were approved in Order No. 2232 regarding the 2010 Panorama Rate Application

3) 2018 Actual figures include actuals from Jan 1 to Dec 31, 2018.

4) The revenue variance was calculated by multiplying the actual number of bed units by the difference between the actual consumption and the forecast consumption and then multiplying that product by the Water consumption rate. This was done so as to eliminate any revenue variance associated with the variance between the forecast number of bed units and the actual number of bed units.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Consumption Deferral Rate Rider**

Schedule 7

Line No.		Forecast		
		2019	2020	2021
1	<u>Forecast Annual Consumption (cu. meter)</u>			
2	Annual Consumption - Residential	24,824	25,323	25,477
3	Annual Consumption - Commercial	75,745	77,124	76,811
4	Total Annual Consumption	100,569	102,447	102,288
5				
6	<u>Calculation of rate rider to recover deferral account balance</u>			
7	Accumulated Consumption Deferral Account Balance			
8	As at January 1st	\$ (488,397.60)	\$ -	\$ -
9	Rate Rider (1 year recovery) (per cu. meter)	\$ 4.86	\$ -	\$ -
10	Revenue from Rate Rider	\$ 488,397.60	\$ -	\$ -
11	Accumulated Consumption Deferral Account Balance	\$ -	\$ -	\$ -
12				
13	Accumulated Consumption Deferral Account Balance			
14	As at January 1st	\$ (488,397.60)	\$ (244,198.80)	\$ -
15	Rate Rider (2 year recovery) (per cu. meter)	\$ 2.43	\$ 2.38	\$ -
16	Revenue from Rate Rider	\$ 244,198.80	\$ 244,198.80	\$ -
17	Accumulated Consumption Deferral Account Balance	\$ (244,198.80)	\$ -	\$ -
18				
19	Accumulated Consumption Deferral Account Balance			
20	As at January 1st	\$ (488,397.60)	\$ (325,598.40)	\$ (162,799.20)
21	Rate Rider (3 year recovery) (per cu. meter)	\$ 1.62	\$ 1.59	\$ 1.59
22	Revenue from Rate Rider	\$ 162,799.20	\$ 162,799.20	\$ 162,799.20
23	Accumulated Consumption Deferral Account Balance	\$ (325,598.40)	\$ (162,799.20)	\$ -

Notes

1) The calculation of the consumption deferral rate rider assumes no addition to the Accumulated Consumption Deferral in 2019 due to this Water Rate Application and a change in rates.

2) The 2020 and 2021 forecast figures were developed using a rolling 3-year average of the consumption per bed unit and the number of bed units on a monthly basis. The monthly average forecasts were then totalled to obtain the annual consumption forecast.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Residential Customer Bill Impact**

Average No. of bed units (bu) per customer ¹	6.95 bu per cus.
Average consumption per customer ²	83.72 cu. M. per cus.

Line No.

Residential Customer Bill Impact (with RRTF Contributions)								
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total
1 Residential - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 237.86	\$ 148.18	\$ -	\$ 386.04	\$ 32.17
2 Required Rates (No Rate Rider)	\$ 3.95	\$ 2.42	\$ -	\$ 329.31	\$ 202.55	\$ -	\$ 531.86	\$ 44.32
3 Year-over-Year Change	38%	37%		38%	37%		38%	38%
4 Required Rates (and 1 yr Rate Rider)	\$ 3.95	\$ 2.42	\$ 4.86	\$ 329.31	\$ 202.55	\$ 406.56	\$ 938.43	\$ 78.20
5 Year-over-Year Change	38%	37%		38%	37%		143%	143%
6 Required Rates (and 2 yrs Rate Rider)	\$ 3.95	\$ 2.42	\$ 2.43	\$ 329.31	\$ 202.55	\$ 203.28	\$ 735.14	\$ 61.26
7 Year-over-Year Change	38%	37%		38%	37%		90%	90%
8 Required Rates (and 3 yrs Rate Rider)	\$ 3.95	\$ 2.42	\$ 1.62	\$ 329.31	\$ 202.55	\$ 135.52	\$ 667.38	\$ 55.62
9 Year-over-Year Change	38%	37%		38%	37%		73%	73%

Residential Customer Bill Impact (No RRTF)								
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total
15 Residential - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 237.86	\$ 148.18	\$ -	\$ 386.04	\$ 32.17
16 Required Rates (No Rate Rider)	\$ 3.09	\$ 1.88	\$ -	\$ 258.06	\$ 157.67	\$ -	\$ 415.73	\$ 34.64
17 Year-over-Year Change	8%	6%		8%	6%		8%	8%
18 Required Rates (and 1 yr Rate Rider)	\$ 3.09	\$ 1.88	\$ 4.86	\$ 258.06	\$ 157.67	\$ 406.56	\$ 822.29	\$ 68.52
19 Year-over-Year Change	8%	6%		8%	6%		113%	113%
20 Required Rates (and 2 yrs Rate Rider)	\$ 3.09	\$ 1.88	\$ 2.43	\$ 258.06	\$ 157.67	\$ 203.28	\$ 619.01	\$ 51.58
21 Year-over-Year Change	8%	6%		8%	6%		60%	60%
22 Required Rates (and 3 yrs Rate Rider)	\$ 3.09	\$ 1.88	\$ 1.62	\$ 258.06	\$ 157.67	\$ 135.52	\$ 551.25	\$ 45.94
23 Year-over-Year Change	8%	6%		8%	6%		43%	43%

Notes

1) Default residential single family dwelling is 10 bed units as outlined in the tariff; however the average bed units per customer ranged from 5.12 bu in 2010 to 6.95 bu in 2017. The 2017 average number of bed units per customer was used to determine the impact of the proposed rates.

2) Average usage for residential customers based on the total metered usage and the average customer count for that 2017.

3) Excludes any applicable taxes.

**Corix Multi-Utility Services Inc.
Panorama Water Utility
Commercial Customer Bill Impact**

Average No. of bed units (bu) per customer ¹	65.89 bu per cus.
Average consumption per customer ²	2113.95 cu. M. per cus.

Line No.

Commercial Customer Bill Impact (with RRTF Contributions)									
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³	
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total	
1 Commercial - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 2,253.50	\$ 3,741.68	\$ -	\$ 5,995.19	\$ 499.60	
2 Required Rates (No Rate Rider)	\$ 4.33	\$ 2.49	\$ -	\$ 3,420.20	\$ 5,270.45	\$ -	\$ 8,690.64	\$ 724.22	
3 Year-over-Year Change	52%	41%		52%	41%		45%	45%	
4 Required Rates (and 1 yr Rate Rider)	\$ 4.33	\$ 2.49	\$ 4.86	\$ 3,420.20	\$ 5,270.45	\$ 10,266.06	\$ 18,956.70	\$ 1,579.72	
5 Year-over-Year Change	52%	41%		52%	41%		216%	216%	
6 Required Rates (and 2 yrs Rate Rider)	\$ 4.33	\$ 2.49	\$ 2.43	\$ 3,420.20	\$ 5,270.45	\$ 5,133.03	\$ 13,823.67	\$ 1,151.97	
7 Year-over-Year Change	52%	41%		52%	41%		131%	131%	
8 Required Rates (and 3 yrs Rate Rider)	\$ 4.33	\$ 2.49	\$ 1.62	\$ 3,420.20	\$ 5,270.45	\$ 3,422.02	\$ 12,112.66	\$ 1,009.39	
9 Year-over-Year Change	52%	41%		52%	41%		102%	102%	

Commercial Customer Bill Impact (No RRTF)									
Details	BU Rate	Cons. Rate	Rate Rider	2019 Annual Bill ³				2019 Monthly Bill ³	
	\$/bu/mth	\$/cu. M.	\$/cu. M.	Fixed	Variable	Rate Rider	Total	Total	
15 Commercial - Existing Rates	\$ 2.85	\$ 1.77	\$ -	\$ 2,253.50	\$ 3,741.68	\$ -	\$ 5,995.19	\$ 499.60	
16 Required Rates (No Rate Rider)	\$ 3.43	\$ 1.97	\$ -	\$ 2,708.73	\$ 4,174.10	\$ -	\$ 6,882.83	\$ 573.57	
17 Year-over-Year Change	20%	12%		20%	12%		15%	15%	
18 Required Rates (and 1 yr Rate Rider)	\$ 3.43	\$ 1.97	\$ 4.86	\$ 2,708.73	\$ 4,174.10	\$ 10,266.06	\$ 17,148.89	\$ 1,429.07	
19 Year-over-Year Change	20%	12%		20%	12%		186%	186%	
20 Required Rates (and 2 yrs Rate Rider)	\$ 3.43	\$ 1.97	\$ 2.43	\$ 2,708.73	\$ 4,174.10	\$ 5,133.03	\$ 12,015.86	\$ 1,001.32	
21 Year-over-Year Change	20%	12%		20%	12%		100%	100%	
22 Required Rates (and 3 yrs Rate Rider)	\$ 3.43	\$ 1.97	\$ 1.62	\$ 2,708.73	\$ 4,174.10	\$ 3,422.02	\$ 10,304.85	\$ 858.74	
23 Year-over-Year Change	20%	12%		20%	12%		72%	72%	

Notes

1) Average bed units per customer ranged from 65.53 bu in 2010 up to a peak of 72.40 in 2016 before settling at 65.89 bu in 2017. The 2017 average number of bed units per customer was used to determine the impact of the proposed rates.

2) Average usage for commercial customers based on the total metered usage and the average customer count for that 2017.

3) Excludes any applicable taxes.

Corix Multi-Utility Services Inc.
Panorama Water Utility
Corporate Services Overhead Breakdown

Schedule 10

Line No.	Corporate Services Overhead	Actual 2018	Forecast 2019
1	Wages and Benefits	\$ 173,812	\$ 43,675
2	Administration/Office	\$ 32,521	\$ 8,172
3	IT and Other Expenses	\$ 23,964	\$ 6,022
4	Consulting	\$ 16,834	\$ 4,230
5	Vehicle/Travel/Training	\$ 7,538	\$ 1,894
6			
7	Total Corporate Services Overhead	\$ 254,670	\$ 63,993

APPENDIX D:
IR No. 5.4 – External Consultant Review of
Corporate Services Cost
(CONFIDENTIAL)