ATCO Electric YUKON

September 28, 2023 AEY-UCG-040

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-040

Reference: July 7,2023 Application, page 6-1; Taxes Other Than Income

AEY states "*Property taxes are paid to the communities annually for ATCO Electric Yukon's office building, generation facilities, substation properties and power lines. The increases in the forecast over the test period are due to inflation.*"

Request:

(a) Provide a breakdown of actual property taxes paid in 2016, 2017, 2018, 2019, 2020, 2021, 2022 and forecast for 2023 and 2024 to each entity to which property taxes are paid.

(b) Is there any planned capital work that would result in new taxes? Explain.

Response:

(a) Property tax by entity paid is as noted in Table 1 below:

Table 1: Property Tax by Entity
($000)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Entity	**Actuals**							**Test Period**	
British Columbia Government	6	6	6	6	7	7	7	7	7
City of Whitehorse	139	135	131	134	141	128	137	142	146
Town of Watson Lake	33	35	48	48	49	49	49	51	52
Village of Carmacks	9	10	10	11	11	11	11	11	12
Village of Haines Junction	5	5	6	6	6	6	5	6	6
Village of Teslin	10	10	10	10	10	10	10	10	10
Yukon Government	51	52	53	62	53	56	56	58	59
Total	**253**	**253**	**264**	**277**	**277**	**267**	**275**	**285**	**292**

(b) No, AEY does not foresee any of the planned capital work in 2023 and 2024 to increase property taxes beyond the proposed inflationary increases.

ATCO Electric YUKON

September 28, 2023 AEY-UCG-041

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-041

Reference: July 7,2023 Application, page 7-1 and 7-2; Depreciation and Negative Net Salvage

AEY states "*The annual increases in depreciation expense from 2018 to 2022 are due to growth in property, plant, and equipment.* Thae increases from 2022 to 2023 and 2024 are mainly driven by the restart of the Net Salvage collection."

Request:

(a) Give the impact on revenue requirement, in a percentage of total increase proposed, for depreciation, deferred costs of amortization, long term debt and ROE.

(b) Provide details of the net negative salvage from 2018 to 2022 (all non-test years) and proposed salvage depreciation for 2023 and 2024. Explain how this affects revenue requirement for each of these test years.

(c) Give reasons why a more balanced approach (i.e., deferring some capital projects to a later date to lower depreciation expense could be used for each test year to provide more stable rates.

(d) Provide specific calculations related to assets being added to rate base that result in an increase in total depreciation expense of $2.047 million in 2023 (2023 forecast vs. 2022 actual) and an additional $1.829 million in 2024 (2023 forecast vs. 2024 forecast).

Response:

(a-b) Please note that the original depreciation expenses included in AEY's 2023-2024 GRA application were placeholder amounts and have been updated per AEY's Depreciation Study, which was filed with the Board on September 11, 2023. As

set out in Board Order 2023-18, information requests related to AEY's updated depreciation expenses can be submitted by October 10, 2023.

(c) AEY does not believe that deferring capital projects to a later date to provide more stable rates is a viable option as these delays could put AEY's ability to provide safe and reliable service at risk. There is increasing strain on the current grid due to load growth from the rapidly increasing population in the Yukon. If these capital projects are not addressed in a timely manner, the reliability of the grid could be compromised.

(d) Please refer to the response to part (a-b) above.

ATCO Electric YUKON

September 28, 2023 AEY-UCG-042

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-042

Reference: July 7,2023 Application, page 8-1 to 8-4

AEY is proposing that the benchmark ROE to be set in a currently incomplete BCUC GCOC proceeding to determine the AEY ROE for the test years which was previously set at 8.75 percent, to be used as a placeholder. and that the add-on risk premium be increased from the current to 0.75 percent.

Request:

(a) Provide AEY's understanding that to accept changes to any element of its revenue requirement after a decision on the test period (i.e., in a compliance filing) has been made by the YUB would violate the prospective nature of rate-setting in the Yukon.

(b) Give current rates of ROE for other jurisdictions in Canada. Reference documentation.

(c) Identify the YUB-allowed ROE and equity ratio currently incorporated in rates charged by Yukon Energy Corporation. Reference documentation.

(d) Since rates for 2018 through 2022 were based in part on a return on rate base that was more than what would have been earned on actual rate base, please provide a calculation of the excess return incorporated in rates for 2018 through 2022.

(e) Confirm that the current benchmark ROE of 8.75% established by the BCUC was for a utility having a 38% equity ratio with no provision for an add-on risk premium.

(f) Confirm that the current benchmark ROE of 8.75% established by the Alberta Utilities Commission does not allow for an add-on risk premium.

(g) Provide a table that reflects the actual annual ROE earned by AEY for 2016 through 2022 (% and $) as compared to the Board set rate of ROE.

(h) What is the difference between rate of return and return on equity.

(i) Explain why AEY has a rate of return amount and not the return of equity amount on yearly reports to YUB.

Response:

(a) AEY does not consider the update of a placeholder to be retroactive rate making, revenue requirement would be set prospectively based on a defined input that is outstanding at the time of the decision. The variance between placeholders can be settled through adjustment riders as done in other jurisdictions similar to adjustments for approved deferrals.

(b) Please refer to the response to AEY-JM-025(a).

(c) Per Board Order 2023-01,[1] the YUB approved a ROE of 8.65 percent after the Application of OIC 1995/90 and 40 percent equity ratio for YEC.

(d) The Yukon Utilities Board approved 9.0 percent ROE in Board Order 2017-01. Please refer to the following table for AEY's actual return on equity for the years 2016-2022:

Table 1: AEYs Actual Return on Equity

	2016	2017	2018	2019	2020	2021	2022
Actual Return on Equity (%)	10.44%	12.72%	12.63%	13.00%	13.19%	12.35%	11.88%
Approved Return on Equity (%)	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Differential (bps)	144	372	363	400	419	335	288
Differential ($000)	566.3	1,543.9	1,554.0	1,732.4	1,806.5	1,450.3	1,318.1

(e) Not confirmed. Please refer to the response to AEY-YUB-022.

(f) Not confirmed. The current ROE established by the Alberta Utilities Commission (AUC) is 8.50 percent, this does not contain a specific ROE adder on account of business risk. This is not because the AUC has prohibited or has a policy against

[1] https://yukonutilitiesboard.yk.ca/pdf/Board_Orders_2020/Board_Order_2023-01.pdf.

business risk premiums, rather that the AUC has not been persuaded that any of the Alberta utilities have greater business risk than comparator Alberta utilities.

(g) Please refer to the response to part (d) above.

(h) The rate of return is the net gain or loss of an investment over a specified period, expressed as a percentage of the investment's initial cost. Return on equity is a measure of financial performance, calculated by dividing net income by shareholders' equity.

(i) AEY provides both the rate of return and the return on equity in its annual reports.

ATCO Electric YUKON

September 28, 2023 AEY-UCG-043

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-043

Reference: July 7,2023 Application, pages 8-4 and 8-5 Forecast Long term Date Rates

Request:

(a) Indicate all cases in the last 5 years where AEY has had to defer or abandon expenditures needed to provide service due to an inability to raise the necessary capital under reasonable terms and conditions. Please provide details.

(b) Is AEY planning to raise any capital to finance investment growth in the 2023 and 2024 test years? Give details.

(c) Detail all AEY Term loans with amounts, dates and to whom from last GRA period.

(d) Explain why AEY is proposing a rate greater than the highest Long Canada Bond Rate?

(e) What is the current YUB direction on determining cost of debt.

Response:

(a) AEY has never had to defer or abandon expenditures needed to provide service due to an inability to raise necessary capital under reasonable T&Cs.

(b) Please refer to the response to AEY-YUB-040(d).

(c) Please refer to the response to AEY-YUB-040(a).

(d) The cost of debt is determined by adding a credit spread on top of Long Canada Bond Rates. Credit ratings determine the credit spread which reflects the entity risk and credit risk. The credit spread forecast is calculated based on CU Inc's

historical credit spread actuals and then added to the underlying rate, which in this case is the Long Canada Bond Rate.

(e) The YUB has relied on market forecasts for the Long Canada Bond rate plus a credit spread based on historical actuals.

September 28, 2023 AEY-UCG-044

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-044

Reference: July 7,2023 Application, page 8-2 Stand-Alone-Principle

Request:

Give AEYs definition of stand-alone-principle and explain why AEY fits into this category.

Response:

AEY's definition of the stand-alone principle is consistent with that outlined in the Concentric Report included in the Application; specifically, that a utility must be regulated as if it were a stand-alone entity, separate and independent from any affiliate or parent companies. In this way, capital may be efficiently allocated, with each business segment earning a return based on its own unique set of risks and business characteristics regardless of affiliations within the holding company structure.[1]

This separation ensures that the rates charged to AEY's customers are determined based on AEY's own financial circumstances and do not reflect the financial situation of affiliate or parent companies. AEY fits into this category because it is a utility that is owned by a parent company (ATCO Electric), which, in turn, is owned by CU Inc. In AEY's view, the financial performance or risk profile of AEY's affiliates and/or parent company should not be factors considered when determining AEY's approved returns.

[1] 2023-2024 AEY GRA, PDF p. 147.

September 28, 2023 AEY-UCG-045

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-045

Reference: July 7,2023 Application, page 8-3

"AEY submits that its ongoing business risks encompass market demand operational risk."

Request:

Explain each of these risks (i.e., business and market demand) with examples.

Response:

Please refer to the response to AEY-JM-022(b).

ATCO Electric YUKON

September 28, 2023 AEY-UCG-046

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-046

Reference: July 7,2023 Application, page 8-3

AEY claims "AEY sales are more sensitive to weather than other electric utilities due to extreme range of temperatures experienced in northern Canada."

Request:

(a) Give examples of these extreme range of temperatures compared to other jurisdictions.

(b) Would not colder weather present a positive result for AEY (i.e., greater sales, thus greater income)?

Response:

(a) Please refer to the response to AEY-YUB-024(a-c).

(b) The issue from a risk perspective is variability from the forecast, which causes the Company's actual cash flows and earnings to deviate from what is forecast. In addition, weather conditions have become more extreme and less predictable in recent years.

September 28, 2023 AEY-UCG-047

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-047

Reference: July 7,2023 Application, page 8-3

AEY claims transformational change increases risk.

Request:

Compare this concept to other non-regulated Yukon businesses.

Response:

AEY does not consider the risks experienced by other non-regulated Yukon businesses to be relevant to the assessment of its business risk as a regulated utility. Accordingly, AEY declines to provide the requested information pursuant to Rule 14(4)(a) of the YUB *Rules of Practice*.

ATCO Electric YUKON

September 28, 2023 AEY-UCG-048

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-048

Reference: July 7,2023 Application, page 8-3

AEY claims: "Operational cost risks due to potential to under-estimate various cost items including capital expenditures, financing costs and O&M expenses."

Request:

(a) Explain when and if YEC has ever had negative cost recovery (i.e., underestimated various costs).

(b) Explain when and if YEC has had positive cost recovery (i.e., overestimated various costs.

Response:

(a-b) AEY submits that the requested information is beyond the scope of this Proceeding and declines to provide the same pursuant to Rule 14(4)(a) of the YUB *Rules of Practice*.

ATCO Electric YUKON

September 28, 2023 AEY-UCG-049

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-049

Reference: July 7,2023 Application, page 8-4

AEY is seeking continuation of its currently approved common equity ratio of 40 percent for each of 2023 and 2024.

Request:

(a) Give AEYs proxy/benchmark comparison common equity ratio with referenced documents.

Response:

(a) Please refer to the response to AEY-UCG-056(c).

ATCO Electric YUKON

September 28, 2023 AEY-UCG-050

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
The Yukon Utilities Consumers' Group (UCG)
Received: September 6, 2023

AEY-UCG-050

Reference: July 7,2023 Application, page 8-5; No Cost Capital

AEY claims: The no cost capital included in this Application relates to the balances for deferred pensions including Other Post Employment Benefit (OPEB) plans as well as the Reserve for Injuries and Damages. Both the pension plan and OPEB have been accounted for on a cash basis in the test period.

Request:

(a) Explain how no cost capital impacts the revenue requirement for each of the test years.

(b) Break down the no cost capital amounts in Table 8.3 for Pension, OPEB, RID and other for each test year.

(c) Explain what is meant by having a no cost capital for pension and OPEB, yet this has been accounted for on a cash basis for the test period.

(d) What is the status of the ATCO Pension Plan and OPEB in connection with CU Limited affiliates.

(e) Provide copies of the defined benefit pension actuarial evaluation as of December 31, 2018, 2019, 2020, 2021 and 2022 and identify the resulting funding amounts.

(f) Provide details of all credits and debits recorded in existing deferral accounts for 2018,2019, 2020, 2021 and 2022.

(g) What returns or carrying costs have been accrued on the balances in the deferral account since it was approved in the last GRA?

(h) Provide evidence demonstrating that AEY's total compensation costs and compensation strategy are in line with utility sector practice.

(i) Provide a breakdown of total compensation cost and pension cost showing separately the amount attributed to capital expenditures and the amount attributed to operating expenditures.

(j) Does AEY provide enhanced benefits under early retirement or other severance arrangements? If yes, please provide evidence demonstrating the value of the enhancements and impact on ratepayers.

(k) Does AEY incur any pension-related costs directed to special categories of employees such as a supplementary executive retirement plan(s)? If yes, please identify the amounts contributed by employees to any such plan(s) and describe the basis for determining the amount included in rates.

(l) Provide a description of the governance framework AEY employs to govern its pension plans (both DB and DC plans) and OPEB.

(m) Give an accounting for RID since last GRA.

(n) Explain how RID impacts revenue requirement for each of the test years.

Response:

(a) The no cost capital amount reduces the debt and equity financing that AEY has to acquire to finance its utility capital investment, offsetting the cost of capital included in revenue requirement within the Test Period.

(b) Please refer to AEY-UCG-050(b) Attachment 1. AEY notes that the 2023 Actuarial valuation report is now available and, as the pension costs are under deferral treatment, AEY will update revenue requirement accordingly in the Compliance Filing to the Application to minimize the deferred balances requiring future settlement.

(c) The no cost capital for Defined Pension and OPEB is the net pension assets that meet the funding requirements for the Defined Pension and OPEB plan members. This amount is considered no cost capital and proportionately reduces revenue requirement. For example, if AEY invests the funds into a savings account to earn interest, instead of pension, the interest income would reduce revenue

requirement. Therefore, the net pension contributions are included in the no cost capital to reduce the proportional amount of revenue requirement. The pension current service costs and interest costs are accounted for on cash basis, which is not part of the no cost capital.

(d) AEY is a participant of CU Inc's Plan 1. The transfer of pension assets and liabilities in Plan 2 was concluded on September 6, 2016.

(e) Please refer to AEY-UCG-50(e) Attachment 1-4 for the actuarial valuation report for the period 2019-2022. There was no actuarial valuation report completed in 2018 and the resulting funding amounts are per the table below:

Table 1: Net Funding Amounts ($000)

Year	Total costs
2018	240
2019	240
2020	273
2021	249
2022	201

(f) Please refer to AEY-UCG-50(f) Attachment 1 for the determination of the deferred pension costs. In preparation of this response, AEY identified an inadvertent accounting error in the preparation of Schedule 8.8. AEY will correct this in its Compliance Filing along with updating to the most recent pension funding requirements for the Test Period.

(g) The mid-year balance of deferral account balances is included in rate base. Balances owed to customers reduce the net funding requirements and balances due from customers are charged carrying charges through the return on rate base. In 2023 and 2024, the mid-year deferral balances reduce return on rate base by $70,000 and $14,000, respectively.

(h) AEY, with support from ATCO Electric's Human Resources group, establishes an overall compensation strategy, based on a combination of factors, including internal expertise along with consideration and analysis of a variety of available external market compensation reports. External market data is obtained through various compensation survey organizations, government agencies, professional organizations, and applied research organizations. This data is then analyzed and validated by ATCO Electric's compensation specialists and human resource professionals. Based on this experience and data, AEY confirms that its total compensation costs and compensation strategy are in line with utility sector practice.

(i) Please refer to the following table:

Table 2: Compensation
($000)

	2023	**2024**
Compensation (Excl. Pension)	10,481	10,799
Pension Costs	409	418
Total Compensation	**10,890**	**11,217**
Operating Expenditures	7,133	7,295
Capital Expenditures	3,757	3,922

(j) No.

(k) No.

(l) AEY is a participating employer in the Retirement Plan for Employees of Canadian Utilities Limited (CU). CU has a comprehensive pension governance policy and structure in place to fulfill statutory and fiduciary obligations, as the administrator of the Plans. CU also has a pension governance policy that meets the requirements of the Employment Pension Plans Act and sets out the structures

and processes for overseeing, managing and administering the Plans. The administration of each of the Plans is in accordance with its terms and applicable legislation.

(m) AEY had an incident in 2017 (a mechanical failure at Fish Lake) that was fully insurable and recoverable through insurance, less the $100,000 deductible. The $100,000 deductible went through the Reserve for Injuries and Damages (RID) account, which is reflected in the no cost of capital Schedule 8.4, line 29 of the Application. The collection or refund of the accumulated RID balance is included in O&M Schedule 5.1, line 41 of the Application.

(n) The RID provision has accumulated to a refund position as of 2022. In each of the Test Years, AEY plans to refund the credits to customers, which amounts to approximately $279,000 each year. The refund of the accumulated RID balance is incorporated through the O&M costs and is included per Schedule 5.1, Line 41 of the Application.

ATCO Electric Yukon (AEY)
2023 - 2024 General Rate Application (GRA)

Revised Continuity Schedule of No Cost Capital
($000)

Line No.	Description	Cross Ref.	Actuals 2016	2017	2018	2019	2020	2021	2022	Test Period 2023	2024	Approved 2016	2017
1	**No Cost Capital**												
2	**Deferred Pension and Regulatory Asset/Liability**												
3													
4	**Mid-Year Balance Summary**												
5	Other Post Employment Benefits (OPEB)		537	537	537	537	537	537	537	537	537	537	537
6	Defined Benefit Pension		133	128	123	119	115	111	106	103	103	140	136
7	Injuries & Damages		33	144	256	367	479	590	701	518	239	(17)	(6)
8	**Total No Cost Capital Mid-Year Balance**		703	809	915	1,023	1,130	1,238	1,344	1,158	880	660	667
9													
10	**Other Post Employment Benefits (OPEB)**												
11	Balance at Beginning of Year		537	537	537	537	537	537	537	537	537	537	537
12	Add: Charges		36	24	29	25	69	141	73	73	73	37	37
13	Less: Cash Payments		(36)	(24)	(29)	(25)	(69)	(141)	(73)	(73)	(73)	(37)	(37)
14	Balance at End of Year		537	537	537	537	537	537	537	537	537	537	537
15													
16	Mid-Year Balance	(L.11+L.14) / 2	537	537	537	537	537	537	537	537	537	537	537
17													
18	**Defined Benefit Pension** [1]												
19	Balance at Beginning of Year		134	132	124	121	116	113	108	103	103	142	138
20	Add: Charges		509	505	244	244	276	252	204	39	39	505	505
21	Less: Cash Payments		(511)	(513)	(247)	(249)	(279)	(257)	(209)	(39)	(39)	(509)	(509)
22	Balance at End of Year		132	124	121	116	113	108	103	103	103	138	134
23													
24	Mid-Year Balance	(L.19+L.22) / 2	133	128	123	119	115	111	106	103	103	140	136
25													
26	**Injuries & Damages**												
27	Balance at Beginning of Year		(23)	89	100	212	323	435	546	658	379	(23)	(12)
28	Add: Write-off		112	112	112	112	112	112	112	(279)	(279)	112	112
29	Less: Costs		-	(100)	-	-	-	-	-	-	-	(100)	(100)
30	Balance at End of Year		89	100	212	323	435	546	658	379	100	(12)	-
31													
32	Mid-Year Balance	(L.26+L.29) / 2	33	94	156	267	379	490	602	518	239	(17)	(6)

1. AEY has updated the forecast of Define Benefit Pension in the test periods as the most recent 2023 Actuarial Valuation Report becomes available during the information response period.

ATCO Electric Yukon (AEY)
2023 - 2024 General Rate Application (GRA)

Revised Schedule of Deferred Charges & Credits
($000)

Line No.	Description	Cross Ref.	Actuals 2016	2017	2018	2019	2020	2021	2022	Test Period 2023	2024	Approved 2016	2017
1	**Total Deferred Charges & Credits Summary**												
2													
3	**Write-off Summary**												
4	Rate Case Costs	L. 22	(313)	(313)	(313)	(313)	(313)	(313)	(178)	(156)	(203)	(313)	(313)
5	Watson Lake LNG Study Costs	L. 32	(99)	(99)	(99)	(99)	(99)	(99)	(99)	74	124	(99)	(99)
6	Demand Side Management		-	-	-	-	-	-	-	-	-		
7	Pension Deferral Account	L. 49	77	77	77	77	77	77	77	192	192	77	77
8	ERA/IPP Legal Costs		-	-	-	-	-	-	-	94	94	-	-
9	**Total Write-off**		(334)	(334)	(335)	(335)	(335)	(334)	(200)	204	113	(334)	(335)
10													
11	**Deferred Credits Mid-Year Balance Summary**												
12	Rate Case Reserve	L. 26	1	(45)	(210)	(522)	(835)	(1,147)	(1,393)	(793)	(52)	176	156
13	Watson Lake LNG Study Costs	L. 35	263	345	246	148	49	(50)	(149)	(161)	(62)	263	345
14	Demand Side Management Program Costs	L. 44	199	-	-	-	-	-	-	-	-	199	-
15	Pension Deferral Account	L. 52	(39)	(39)	(38)	(115)	(184)	(252)	(336)	(288)	(96)	(39)	(39)
16	ERA/IPP Legal Costs		-	-	-	-	73	178	198	141	47		
17	**Total Deferred Credits Mid-Year Balance**		424	261	(2)	(490)	(897)	(1,271)	(1,679)	(1,101)	(210)	600	463
18													
19	Rate Case Costs												
20	Balance at Beginning of Year		39	(37)	(54)	(366)	(679)	(991)	(1,304)	(1,481)	(104)	39	313
21	Add: Rate Case Costs		236	296	-	-	-	-	-	301	307	586	-
22	Less: Rate Case (Write-off) Credit		(313)	(313)	(313)	(313)	(313)	(313)	(313)	(156)	(203)	(313)	(313)
23	Less: Adjustment for YUB 2022-13		-	-	-	-	-	-	135	1,232	-	-	-
24	Balance at End of Year		(37)	(54)	(366)	(679)	(991)	(1,304)	(1,481)	(104)	-	313	-
25													
26	Mid-Year Balance	(L.20+L.24)/2	1	(45)	(210)	(522)	(835)	(1,147)	(1,393)	(793)	(52)	176	156
27													
28	Watson Lake LNG Study Costs												
29	Balance at Beginning of Year		131	394	296	197	98	(1)	(99)	(198)	(124)	131	394
30	Add: Costs/AFUDC		-	-	-	-	-	-	-	-	-	-	-
31	Add: Transfers from Plant Additions		362	-	-	-	-	-	-	-	-	362	-
32	Less: Write-off		(99)	(99)	(99)	(99)	(99)	(99)	(99)	74	124	(99)	(99)
33	Balance at End of Year		394	296	197	98	(1)	(99)	(198)	(124)	-	394	296
34													
35	Mid-Year Balance	(L.29+L.33)/2	263	345	246	148	49	(50)	(149)	(161)	(62)	263	345
36													
37	Demand Side Management Program Costs												
38	Balance at Beginning of Year		398	-	-	-	-	-	-	-	-	398	-
39	Add: Costs		136	-	-	-	-	-	-		-	136	-
40	Less: Transfer to Rate Base		(534)	-	-	-	-	-	-	-	-	(534)	
41	Less: Write Off									-	-	-	-
42	Balance at End of Year		-	-	-	-	-	-	-	-	-	-	-
43													
44	Mid-Year Balance	(L.38+L.42)/2	199	-	-	-	-	-	-	-	-	199	-
45													
46	Pension Deferral [1]												
47	Balance at Beginning of Year		-	(77)	-	(77)	(154)	(215)	(289)	(384)	(192)	-	(77)
48	Add: Costs		(154)	-	(154)	(154)	(138)	(150)	(172)	-	-	(154)	-
49	Less: Write-off		77	77	77	77	77	77	77	192	192	77	77
50	Balance at End of Year		(77)	-	(77)	(154)	(215)	(289)	(384)	(192)	-	(77)	-
51													
52	Mid-Year Balance	(L.47+L.50)/2	(39)	(39)	(38)	(115)	(184)	(252)	(336)	(288)	(96)	(39)	(39)
53													
54	EPA/IPP Legal Costs												
55	Balance at Beginning of Year		-	-	-	-	-	146	209	187	94		
56	Add: Costs		-	-	-	-	146	63	(22)	-	-		
57	Less: Write-off		-	-	-	-	-	-	-	(94)	(94)		
58	Balance at End of Year						146	209	187	94	-		
59													
60	Mid-Year Balance	(L.55+L.58)/2	-	-	-	-	73	178	198	141	47	-	-

1. AEY updates the Pension Deferral balance as the most recent 2023 Actuarial Valuation Report becomes available during the information response period.

MERCER

Retirement Plan for Employees of Canadian Utilities Limited and Participating Companies - Plan 1

Report on the Actuarial Valuation for Funding Purposes as at December, 31, 2019

July 10, 2020

Canada Revenue Agency Registration Number: 0343343

welcome to brighter

Note to reader regarding actuarial valuations:

This valuation report may not be relied upon for any purpose other than those explicitly noted in the Introduction, nor may it be relied upon by any party other than the parties noted in the Introduction. Mercer is not responsible for the consequences of any other use. A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a pension plan's future financial condition or its ability to pay benefits in the future. If maintained indefinitely, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the amount of plan expenses, and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date. The content of the report may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission. All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used, or relied upon without reference to the report as a whole.

To prepare the results in this report, actuarial assumptions are used to model a single scenario from a range of possibilities for each valuation basis. The results based on that single scenario are included in this report. However, the future is uncertain and the Plan's actual experience will differ from those assumptions; these differences may be significant or material. Different assumptions or scenarios within the range of possibilities may also be reasonable, and results based on those assumptions would be different. Furthermore, actuarial assumptions may be changed from one valuation to the next because of changes in regulatory and professional requirements, developments in case law, plan experience, changes in expectations about the future, and other factors.

The valuation results shown in this report also illustrate the sensitivity to three key actuarial assumptions, including the discount rate. We note that the results presented herein rely on many assumptions, all of which are subject to uncertainty, with a broad range of possible outcomes, and the results are sensitive to all the assumptions used in the valuation.

Should the Plan be wound up, the going concern funded status and solvency financial position, if different from the wind-up financial position, become irrelevant. The hypothetical wind-up financial position estimates the financial position of the Plan assuming it is wound up on the valuation date. Emerging experience will affect the wind-up financial position of the Plan assuming it is wound up in the future. In fact, even if the Plan were wound up on the valuation date, the financial position would continue to fluctuate until the benefits are fully settled.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

Funding calculations reflect our understanding of the requirements of the *Alberta Employment Pension Plans Act*, the Income Tax Act, and related regulations that are effective as of the valuation date. Mercer is not a law firm, and the analysis presented in this report is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this report.

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Summary of Results

	31.12.2019	31.12.2017
Going Concern Financial Status		
Market value of assets	$2,818,113,100	$2,695,205,600
Going concern funding target	$2,710,842,700	$2,603,416,000
Funding excess (shortfall)	$107,270,400	$91,789,600
Funded ratio	104.0%	103.5%
Hypothetical Wind-up Financial Position		
Wind-up assets	$2,816,113,100	$2,693,205,600
Wind-up liability	$3,335,781,100	$3,153,972,700
Wind-up excess (shortfall)	($519,668,000)	($460,767,100)
Solvency Financial Position		
Solvency assets	$2,816,113,100	$2,693,205,600
Solvency liability	$2,770,068,000	$2,691,372,700
Solvency excess (shortfall)	$46,045,100	$1,832,900
Solvency ratio	101.7%	100.1%
Funding Requirements in the Year Following the Valuation[1]		
Total current service cost	$13,412,600	$21,045,400
Estimated members' required contributions	($542,000)	($943,900)
Estimated employer's current service cost	$12,870,600	$20,101,500
Employer's current service cost as a percentage of members' Pensionable earnings	38.90%	35.67%
Minimum special payments	$0	$0
Estimated minimum employer contribution	$12,870,600	$20,101,500
Estimated maximum eligible employer contribution	$12,870,600	$20,101,500
Next required valuation date	31.12.2022	31.12.2020

[1] Provided for reference purposes only. Contributions must be remitted to the Plan in accordance with the Minimum Funding Requirements and Maximum Eligible Contributions sections of this report.

2

Introduction

To the Management Pension Committee of Canadian Utilities Limited

At your request, we have conducted an actuarial valuation of the Retirement Plan for Employees of Canadian Utilities Limited and Participating Companies - Plan 1 (the "Plan"), sponsored by Canadian Utilities Limited (the "Company"), as at the valuation date, December 31, 2019. We are pleased to present the results of the valuation.

The contributions to the defined contribution component of the Plan are determined by the Plan provisions. An estimate of the defined contributions for 2020 is included in this report.

Purpose

The purpose of this valuation is to determine:

- The funded status of the Plan as at December 31, 2019 on going concern, hypothetical wind-up, and solvency bases;
- The minimum required funding contributions from 2020, in accordance with the *Alberta Employment Pension Plans Act* (the "Act"); and
- The maximum permissible funding contributions from 2020, in accordance with the *Income Tax Act*.

The information contained in this report was prepared for the internal use of the Management Pension Committee and the Company, and for filing with the Alberta Treasury Board and Finance and with the Canada Revenue Agency, in connection with our actuarial valuation of the Plan. This report will be filed with the Alberta Treasury Board and Finance and with the Canada Revenue Agency. This report is not intended or suitable for any other purpose.

In accordance with pension benefits legislation, the next actuarial valuation of the Plan will be required as at a date not later than December 31, 2022, or as at the date of an earlier amendment to the Plan depending on any funding implications.

Terms of Engagement

In accordance with our terms of engagement with the Company, our actuarial valuation of the Plan is based on the following material terms:

- It has been prepared in accordance with applicable pension legislation and actuarial standards of practice in Canada.
- As instructed by the Company, the going concern discount rate reflects a margin for adverse deviations of 0.3% per year.

- We have reflected the Company's decisions for determining the solvency funding requirements, summarized as follows:
  - The same plan wind-up scenario was hypothesized for both hypothetical wind-up and solvency valuations.
  - No benefits were excluded from the solvency liabilities. However, an alternative settlement method for solvency funding purposes was hypothesized, whereby plan benefits were modified as permitted, pursuant to Alberta Treasury Board and Finance's Update 13-01 Alternative Settlement Methods for Hypothetical Wind-Up and Solvency Valuations, to replace future variable inflation protection with a fixed percentage increase.

See the Valuation Results – Solvency section of the report for more information.

Events since the Last Valuation at December 31, 2017

Pension Plan

There have been no special events since the last valuation date that had a material impact on the funding position.

This valuation reflects the provisions of the Plan as at December 31, 2019. There have been no amendments since the date of the previous valuation that had a material impact on the funding position of the Plan, and we are not aware of any pending definitive or virtually definitive amendments coming into effect during the period covered by this report. The Plan provisions are summarized in Appendix F.

Assumptions

We have used the same going concern valuation assumptions and methods as were used for the previous valuation, except for the following:

	Current valuation	Previous valuation
Discount rate:	3.70%	4.80% to January 1, 2020; 3.90% thereafter

A summary of the going concern methods and assumptions is provided in Appendix C.

The hypothetical wind-up and solvency assumptions have been updated to reflect market conditions at the valuation date. A summary of the hypothetical wind-up and solvency methods and assumptions is provided in Appendix D.

Regulatory Environment and Actuarial Standards

On January 24, 2020, the Canadian Institute of Actuaries released the final standards for pension commuted values ("CIA CV Standard"). The new CIA CV Standard was scheduled to be effective August 1, 2020 with early adoption permitted for target pension arrangements. In April 2020, the

CIA announced that the new CIA CV Standard will be effective no earlier than December 1, 2020. Early adoption remains possible for target pension arrangements.

From the effective date, the new CIA CV Standard will affect the assumptions used to value the solvency and wind-up liabilities for benefits assumed to be settled through a lump sum transfer. The financial impact of those changes are not reflected on a solvency and hypothetical wind-up basis but will be considered in a future actuarial valuation, once they are effective.

Subsequent Events

After checking with representatives of the Company, to the best of our knowledge there have been no events subsequent to the valuation date that, in our opinion, would have a material impact on the results of the valuation as at December 31, 2019. However, since the valuation date, there have been significant fluctuations in the financial markets, which may have led to a deterioration of the funded position of the Plan after the valuation date. Our valuation reflects the financial position of the Plan as of the valuation date and does not take into account any experience after the valuation date.

Impact of Case Law

This report has been prepared on the assumption that all claims on the Plan after the valuation date will be in respect of benefits payable to members of the Plan determined in accordance with the Plan terms and that all Plan assets are available to provide for these benefits. It is possible that court and regulatory decisions and changes in legislation could give rise to additional entitlements to benefits under the Plan and cause the results in this report to change. By way of example, we bring your attention to the following decisions:

- The Ontario Court of Appeal's 2003 decision in *Aegon Canada Inc. and Transamerica Life Canada versus ING Canada Inc.* restricted the use of original plan surplus where two or more pension plans were merged.
- The Supreme Court of Canada's 2004 decision in *Monsanto Canada Inc. versus Superintendent of Financial Services* upheld the requirement, with retroactive effect, to distribute surplus on partial plan wind-up under the *Pension Benefits Act (Ontario).*

Although these decisions dealt with Ontario legislation, it is possible that they could have application to other provinces where the underlying language in the *Pension Benefits Act (Ontario)* is similar to language in the legislation of other provinces.

We are not in a position to assess the impact that such decisions or changes could have on the assumption that all plan assets on the valuation date are available to provide for benefits determined in accordance with the Plan terms. If such a claim arises subsequent to the date of this report, the consequences will be dealt with in a subsequent report. We are making no representation as to likelihood of such a claim.

3

Defined Contribution Component of the Plan

The Plan is made up of defined contribution ("DC") and defined benefit ("DB") components. The DC component is considered in this Section. The remainder of the report relates to the DB component of the Plan, unless otherwise noted.

Current Service Cost

For the DC component of the Plan, Canadian Utilities Ltd.'s funding requirement is the employer DC current service cost. We have estimated the employer DC current service cost based on the projected payroll of participants. Our estimate, compared with the result of the previous valuation, is as follows:

	2020	2018
Estimated DC pensionable earnings that will attract an employer contribution	$423,644,000	$468,728,000
Employer DC current service cost	$25,419,000	$28,124,000

For reference, the Plan terms are summarized in Appendix F.

4

Valuation Results – Going Concern

Financial Status

A going concern valuation compares the relationship between the value of Plan assets and the present value of expected future benefit cash flows in respect of accrued service, assuming the Plan will be maintained indefinitely.

The results of the current valuation, compared with those from the previous valuation, are summarized as follows:

	31.12.2019	31.12.2017
Assets		
Market value of assets	$2,818,113,100	$2,695,205,600
Going concern funding target		
Active members	$574,233,900	$769,329,100
Pensioners and survivors	$2,105,589,900	$1,815,289,800
Deferred pensioners and pending transfers	$31,018,900	$18,797,100
Total	$2,710,842,700	$2,603,416,000
Funding excess (shortfall)	$107,270,400	$91,789,600

The going concern funding target includes a provision for adverse deviations.

Reconciliation of Financial Status ($Millions)

Funding excess (shortfall) as at previous valuation		$91.8
Interest on funding excess (shortfall) at 4.80% per year		$9.0
Employer's special payments, with interest		$0.0
Expected funding excess (shortfall)		$100.8
Net experience gains (losses)		
• Investment return	$70.5	
• Increases in pensionable earnings	$6.1	
• Indexation	($20.0)	
• Mortality	($0.1)	
• Retirement	$8.9	
• Termination	$8.0	
Total experience gains (losses)		$73.4
Impact of change to discount rate		($70.5)
Net impact of other elements of gains and losses		$3.6
Funding excess (shortfall) as at current valuation		$107.3

Current Service Cost

The current service cost is an estimate of the present value of the additional expected future benefit cash flows in respect of pensionable service that will accrue after the valuation date, assuming the Plan will be maintained indefinitely.

The current service cost during the year following the valuation date, compared with the corresponding value determined in the previous valuation, is as follows:

	2020	2018
Total current service cost	$13,412,600	$21,045,400
Estimated members' required contributions	($542,000)	($943,900)
Estimated employer's current service cost	$12,870,600	$20,101,500
Employee's current service cost expressed as a percentage of members' pensionable earnings	1.64%	1.68%
Employer's current service cost expressed as a percentage of members' pensionable earnings	38.90%	35.67%
Total current service cost expressed as a percentage of members' pensionable earnings	40.54%	37.35%

The key factors that have caused a change in the employer's current service cost since the previous valuation are summarized in the following table:

Employer's current service cost as at previous valuation	35.67%
Demographic changes	1.85%
Changes in assumptions	1.38%
Employer's current service cost as at current valuation	38.90%

Discount Rate Sensitivity

The following table summarizes the effect on the going concern liabilities and current service cost shown in this report of using a discount rate that is 1% lower than that used in the valuation.

Scenario	Valuation Basis	Reduce Discount Rate by 1%
Going concern funding liabilities	$2,710,842,700	$3,105,064,600
Current service cost		
• Total current service cost	$13,412,600	$16,093,900
• Estimated members' required contributions	($542,000)	($542,000)
Estimated employer's current service cost	$12,870,600	$15,551,900

Plausible Adverse Scenarios

The financial impact on the going concern results of plausible adverse scenarios that would pose threats to the Plan's future financial condition is presented in Appendix G.

5

Valuation Results – Hypothetical Wind-up

Financial Position

When conducting a hypothetical wind-up valuation, we determine the relationship between the respective values of the Plan's assets and its liabilities assuming the Plan is wound up and settled on the valuation date, assuming benefits are settled in accordance with the Act and under circumstances consistent with the hypothesized scenario on the valuation date. For this purpose, we have assumed that annuities would be purchased with a fixed rate of increase of 3.0% per year, which is the maximum rate of increase under the Plan provisions.

More details on such scenario are provided in Appendix D.

The hypothetical wind-up financial position as of the valuation date, compared with that at the previous valuation, is as follows:

	31.12.2019	31.12.2017
Assets		
Market value of assets	$2,818,113,100	$2,695,205,600
Termination expense provision	($2,000,000)	($2,000,000)
Wind-up assets	$2,816,113,100	$2,693,205,600
Present value of accrued benefits for:		
• Active members	$609,570,900	$748,317,000
• Pensioners and survivors	$2,691,528,200	$2,378,590,800
• Deferred pensioners	$34,682,000	$27,064,900
Total wind-up liability	$3,335,781,100	$3,153,972,700
Wind-up excess (shortfall)	($519,668,000)	($460,767,100)

6
Valuation Results – Solvency

Overview

The Act also requires the financial position of the Plan to be determined on a solvency basis. An alternative settlement method for solvency funding purposes was hypothesized, whereby plan benefits were modified as permitted, pursuant to Alberta Treasury Board and Finance's Update 13-01 Alternative Settlement Methods for Hypothetical Wind-Up and Solvency Valuations, to replace future variable inflation protection with a fixed percentage increase. Specifically, as at December 31, 2019, annuities were assumed to be purchased with a fixed rate of increase of 1.38% per year.

More details on such scenario are provided in Appendix D.

Financial Position

The financial position on a solvency basis, compared with the corresponding figures from the previous valuation, is as follows:

	31.12.2019	31.12.2017
Assets		
Market value of assets	$2,818,113,100	$2,695,205,600
Present value of going concern special payments	$0	$0
Termination expense provision	($2,000,000)	($2,000,000)
Net assets	$2,816,113,100	$2,693,205,600
Liabilities		
Total hypothetical wind-up liabilities	$3,335,781,100	$3,153,972,700
Difference in circumstances of assumed wind-up	($565,713,100)	($462,600,000)
Value of excluded benefits	($0)	($0)
Liabilities on a solvency basis	$2,770,068,000	$2,691,372,700
Surplus (shortfall) on a market value basis	$46,045,100	$1,832,900
Solvency ratio	101.7%	100.1%

Solvency Incremental Cost

The solvency incremental cost is an estimate of the present value of the projected change in the solvency liabilities from the valuation date until the next scheduled valuation date, adjusted for the benefit payments expected to be made in that period. The solvency incremental cost determined in this valuation, compared with the corresponding value determined in the previous valuation, is as follows:

	31.12.2019	31.12.2017
Number of years covered by report	3 years	3 years
Total solvency liabilities at the valuation date (A)	$2,770,068,000	$2,691,372,700
Present value at the valuation date of projected solvency liability at the next required valuation plus expected benefit payments until the next required valuation (B)	$2,856,452,000	$2,864,680,300
Solvency incremental cost (B – A)	$86,384,000	$173,307,600

The incremental cost is not an appropriate measure of the contributions that would be required to maintain the windup position of the Plan even if actual experience is exactly in accordance with the going concern valuation assumptions. For example, the expected return on plan assets (based on the going concern assumptions) is greater than the discount rate used to determine the hypothetical wind-up liabilities.

Discount Rate Sensitivity

The following table summarizes the effect on the solvency liabilities shown in this report of using a discount rate that is 1% lower than that used in the valuation:

Scenario	Valuation Basis	Reduce Discount Rate by 1%
Total solvency liability	$2,770,068,000	$3,184,786,800

7

Minimum Funding Requirements

The Act prescribes the minimum contributions that Canadian Utilities Limited must make to the Plan. The minimum contributions in respect of a defined benefit component of a pension plan are comprised of going concern current service cost and special payments to fund any going concern or solvency shortfalls.

On the basis of the assumptions and methods described in this report, the rule for determining the minimum required employer monthly contributions, as well as an estimate of the employer contributions, from the valuation date until the next required valuation are as follows:

	Employer's contribution rule		Estimated employer's contributions
Period beginning	Monthly current service cost[2]	Minimum monthly deficiency payments	Total minimum monthly contributions
January 1, 2020	38.90%	$0	$1,072,550

The estimated contribution amounts above are based on projected members' pensionable earnings. If current service cost contributions are based on a percentage of members' pensionable earnings, then the actual employer's current service cost will be different from the above estimates and, as such, the contribution requirements should be monitored closely to ensure contributions are made in accordance with the Act.

Alternatively, as the Plan is closed to new employees and therefore the active membership is declining, it would be acceptable under the Act to contribute the above dollar amount of estimated employer's contributions to the Plan.

The estimated 2020 contributions to the defined contribution component of the Plan are set out in Section 3

Other Considerations

Differences between Valuation Bases

There is no provision in the minimum funding requirements to fund the difference between the hypothetical wind-up and solvency shortfalls, if any.

[2] Expressed as a percentage of members' pensionable earnings capped at $172,221 per member.

In addition, although minimum funding requirements do include a requirement to fund the going concern current service cost, there is no requirement to fund the expected growth in the hypothetical wind-up or solvency liability after the valuation date, which could be greater than the going concern current service cost.

Timing of Contributions

Funding contributions must be made no less frequently than monthly, and must be made within 30 days following the end of the month to which they apply.

Retroactive Contributions

The Company must contribute the excess, if any, of the minimum contribution recommended in this report over contributions actually made in respect of the period following the valuation date. This contribution, along with an allowance for interest, is due no later than 30 days following the date this report is filed.

Payment of Benefits

The Act imposes certain restrictions on the payment of lump sums from the Plan when the solvency ratio revealed in an actuarial valuation is less than one. If the solvency ratio shown in this report is less than one, the plan administrator should ensure that the monthly special payments are sufficient to meet the requirements of the Act to allow for the full payment of benefits, and otherwise should take the prescribed actions.

Specifically, pursuant to the Act, transfers out of the Plan may only be made in full provided an amount equal to the transfer deficiency has been remitted to the pension fund in addition to the minimum special payments.

8

Maximum Eligible Contributions

The *Income Tax Act* (the "ITA") limits the amount of employer contributions that can be remitted to the defined benefit component of a registered pension plan.

In accordance with Section 147.2 of the ITA and *Income Tax Regulation* 8516, for a plan that is underfunded on either a going concern or on a hypothetical wind-up basis, the maximum permitted contributions are equal to the employer's current service cost, including the explicit expense allowance if applicable, plus the greater of the going concern funding shortfall and hypothetical wind-up shortfall.

For a plan that is fully funded on both going concern and hypothetical wind-up bases, the employer can remit a contribution equal to the employer's current service cost, including the explicit expense allowance if applicable, as long as the surplus in the plan does not exceed a prescribed threshold. Specifically, in accordance with Section 147.2 of the ITA, for a plan that is fully funded on both going concern and hypothetical wind-up bases, the plan may not retain its registered status if the employer makes a contribution while the going concern funding excess exceeds 25% of the going concern funding target.

Notwithstanding the above, any contributions that are required to be made in accordance with pension benefits legislation are eligible contributions in accordance with Section 147.2 of the ITA and can be remitted.

Schedule of Maximum Contributions

Since the surplus does not exceed 25% of the going concern funding target, the Company may make monthly contributions of up to 38.90% of members' pensionable earnings, calculated on a going concern basis, until the next valuation. The monthly amount is estimated at $1,072,550 as shown in Section 7.

The Company could elect to contribute the service cost on a plan termination basis instead of the going concern service cost. For example, based on the scenario in Section 6, the maximum employer contribution for the period to December 31, 2022 is the three year solvency incremental cost of $86,384,000.

The estimated 2020 contributions to the defined contribution component of the plan are set out in Section 3.

9

Actuarial Opinion

In my opinion, for the purposes of the valuations,

- The membership data on which the valuation is based are sufficient and reliable.
- The assumptions are appropriate.
- The methods employed in the valuation are appropriate.

This report has been prepared, and my opinion given, in accordance with accepted actuarial practice in Canada. It has also been prepared in accordance with the funding and solvency standards set by the *Alberta Employment Pension Plans Act*.



Mark Greenwood
FCIA, FIA

July 10, 2020
Date

Appendix A
Prescribed Disclosure

Definitions

The Act defines a number of terms as follows:

Defined Term	Description	Result
Going Concern Assets Value	The value of the assets of a plan as of the relevant review date, determined on the basis of a going concern valuation.	$2,818,113,100
Going Concern Liabilities Value	The actuarial present value of a plan's benefits as of the relevant review date, determined on the basis of a going concern valuation.	$2,710,842,700
Unfunded Liability	The amount, if any, by which a plan's going concern liabilities value exceed its going concern assets value.	$0
Going Concern Funded Ratio	The fraction obtained by dividing the Going Concern Assets Value by the Going Concern Liabilities Value	1.0396
Accessible Going Concern Excess	The amount, if any, by which a plan's Going Concern Assets Value exceed 105% of its Going Concern Liabilities Value.	$0
Solvency Asset Value	The value of the plan's assets determined on a plan termination basis including any cash balances and accrued and receivable income and reduced by the actuary's estimate of the expenses that would be incurred in winding-up the plan.	$2,816,113,100
Solvency Liabilities Value	The liabilities of the plan calculated on a plan termination basis.	$2,770,068,000
Solvency Asset Adjustment	The sum of	
	a. the face amount of any prescribed letters of credit.	$0
	b. the present value of special payments sufficient to amortize the unfunded liability due over the next five years, and	$0
		$0

Defined Term	Description	Result
Solvency Ratio	The fraction obtained by dividing:	1.0166
	(a) the Solvency Asset Value, and	$2,816,113,100
	(b) the Solvency Liabilities Value.	$2,770,068,000
Solvency Deficiency	The amount, if any, by which:	$0
	(a) the Solvency Liabilities Value	$2,770,068,000
	exceed the sum of:	
	(a) the Solvency Asset Value, and	$2,816,113,100
	(b) the Solvency Asset Adjustment.	$0
		$0
Accessible Solvency Excess	The amount, if any, by which a plan's Solvency Asset Value exceed 105% of its Solvency Liabilities Value.	$0
Special Payments	A monthly special payment established to amortize an unfunded liability is hereafter referred to as an unfunded liability special payment.	$0
	A monthly special payment established to amortize a solvency deficiency is hereafter referred to as a solvency special payment.	$0

Timing of Next Required Valuation

In accordance with the Act and the Superintendent's Directives, an actuarial report must be prepared at intervals not exceeding three years. The Superintendent also directs that the plan administrator file actuarial reports annually if the going concern funded ratio of the plan is less than 85%. Triennial filings may resume with the filing of a report showing that the going concern funded ratio is at least 85%.

Accordingly, the next valuation of the Plan will be required as of December 31, 2022.

Special Payments

Going Concern Basis

No unfunded liability special payments are required.

Solvency Basis

No solvency special payments are required.

Appendix B
Plan Assets

The pension fund is held by Northern Trust. In preparing this report, we have relied upon fund statements prepared by Northern Trust without further audit. Customarily, this information would not be verified by a plan's actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy.

Reconciliation of Market Value of Plan Assets

The pension fund transactions since the last valuation are summarized in the following table:

	2019	2018
January 1	$2,588,801,409	$2,695,205,550
PLUS		
Members' contributions	$870,144	$982,585
Company's contributions	$19,584,525	$20,101,500
Investment earnings	$100,601,580	$99,793,401
Net Capital gains (losses)	$235,870,706	($91,394,225)
	$356,926,955	$29,483,261
LESS		
Pensions paid	$107,498,5474	$118,681,112
Lump-sums paid	$9,337,408	$8,015,260
Administration and investment fees	$10,779,387	$9,191,030
	$127,615,269	$135,887,402
December 31	$2,818,113,095	$2,588,801,409
Gross rate of return[3]	13.27%	0.32%
Rate of return net of expenses[3]	12.82%	(0.03%)

We have tested the pensions paid, the lump-sums paid, and the contributions for consistency with the membership data for the Plan members who have received benefits or made contributions. The results of these tests were satisfactory.

[3] Assuming mid-period cash flows.

Investment Policy

The plan administrator has adopted a statement of investment policy and procedures. This policy is intended to provide guidelines for the manager(s) as to the level of risk that is consistent with the Plan's investment objectives. A significant component of this investment policy is the asset mix.

The plan administrator is solely responsible for selecting the Plan's investment policies, asset allocations, and individual investments.

The constraints on the asset mix and the actual asset mix at the valuation date are provided for information purposes:

	Investment Policy			Actual asset Mix as at 31.12.2019
	Minimum	Target	Maximum	
Canadian Fixed Income	30.0%	47.0%	60.0%	71.1%
Global Fixed Income	15.0%	23.0%	35.0%	
Real Estate	0.0%	9.0%	10.0%	8.2%
Global Equity	0.0%	21.0%	40.0%	19.7%
Cash and Cash Equivalents	-	-	-	1.0%
		100%		100%

Appendix C
Methods and Assumptions – Going Concern

Valuation of Assets

For this valuation, we have used the market value of assets.

Going Concern Funding Target

Over time, the real cost to the employer of a pension plan is the excess of benefits and expenses over member contributions and investment earnings. The actuarial cost method allocates this cost to annual time periods.

For purposes of the going concern valuation, we have continued to use the projected unit credit actuarial cost method. Under this method, we determine the present value of benefit cash flows expected to be paid in respect of service accrued prior to the valuation date, based on projected final average earnings. This is referred to as the funding target.

The funding excess or funding shortfall, as the case may be, is the difference between the market or smoothed value of assets and the funding target. A funding excess on a market value basis indicates that the current market value of assets and expected investment earnings are expected to be sufficient to meet the cash flows in respect of benefits accrued to the valuation date as well as expected expenses – assuming the plan is maintained indefinitely. A funding shortfall on a market value basis indicates the opposite – that the current market value of the assets is not expected to be sufficient to meet the plan's cash flow requirements in respect of accrued benefits, absent additional contributions.

As required under the Act, a funding shortfall including the provision for adverse deviations must be amortized over no more than 15 years through special payments. A funding excess may, from an actuarial standpoint, be applied immediately to reduce required employer current service contributions unless precluded by the terms of the plan or by legislation.

The actuarial cost method used for the purposes of this valuation produces a reasonable matching of contributions with accruing benefits. Because benefits are recognized as they accrue, the actuarial cost method provides an effective funding target for a plan that is maintained indefinitely.

Current Service Cost

The current service cost is the present value of projected benefits to be paid under the plan with respect to service expected to accrue during the period until the next valuation.

The employer's current service cost is the total current service cost reduced by the members' required contributions.

The employer's current service cost has been expressed as a percentage of the members' pensionable earnings to provide an automatic adjustment in the event of fluctuations in membership and/or pensionable earnings.

Under the projected unit credit actuarial cost method, the current service cost for an individual member will increase each year as the member approaches retirement. As the DB component is closed to new members, the current service cost for DB members, expressed as a percentage of the members' pensionable earnings, can be expected to increase as the average age increases.

Actuarial Assumptions – Going Concern Basis

The present value of future benefit payment cash flows is based on economic and demographic assumptions. At each valuation we determine whether, in our opinion, the actuarial assumptions are still appropriate for the purposes of the valuation, and we revise them, if necessary. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations.

The table below shows the various assumptions used in the current valuation in comparison with those used in the previous valuation.

Assumption	Current valuation	Previous valuation
Discount rate:	3.70%	4.80% to January 1, 2020; 3.90% thereafter
Inflation:	2.00%	2.00%
ITA limit / YMPE increases:	2.25%	2.25%
Pensionable earnings increases:	2.50% (plus Merit and Promotion)	2.50% (plus Merit and Promotion)
Post-retirement pension increases:	1.85%	1.85%
Retirement rates:	Retirement occurs when age and service sum to 90 years, but not after age 65 or before 55	Retirement occurs when age and service sum to 90 years, but not after age 65 or before 55
Termination rates:	None	None
Mortality rates:	95% of the rates of the 2014 Private Sector Canadian Pensioners Mortality (CPM) Table	95% of the rates of the 2014 Private Sector Canadian Pensioners Mortality (CPM) Table
Mortality improvements:	Fully generational using CPM Improvement Scale B (CPM-B)	Fully generational using CPM Improvement Scale B (CPM-B)
Disability rates:	None	None

Assumption	Current valuation	Previous valuation
Eligible spouse at retirement:	Based on current marital status	Based on current marital status
Spousal age difference:	Male 3 years older	Male 3 years older

The assumptions are best-estimate with the exception that the discount rate includes a margin for adverse deviations, as shown below.

Age-Related Tables

Sample rates from the age-related tables are summarized in the following table:

Age	Merit and Promotion
20	13.65%
25	6.02%
30	3.08%
35	1.75%
40	1.07%
45	0.70%
50	0.47%
55	0.33%

Pensionable Earnings

The benefits ultimately paid will depend on each member's final average earnings. To calculate the pension benefits payable upon retirement or death, we have taken 2019 earnings and assumed that such pensionable earnings will increase at the assumed rate.