TELUS Health

Preliminary Results of the Actuarial Valuation as at January 1, 2023

City of Saint John Shared Risk Plan

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August 30, 2023

Today’s Agenda

1. Preamble and Highlights
2. Funding Policy Valuation Results
   - Membership
   - Assets
   - Assumptions and Funded Position
   - Normal Cost
   - Open Group Funded Ratio
3. Review Asset Liability Model
4. Review Risk Management Goals and Procedures
5. Review Other Valuation Basis and Next Steps
6. Review Actions under Funding Policy (Step 1)

Preamble and Highlights

Preamble

- At the May 31, 2023 Board meeting, the Board adopted a change to the discount rate to 5.0% per annum, subject to legal review

- Further to legal review, it was determined that such a change should be submitted to the Parties (City and Unions) for approval
  - At a special meeting of the Board on June 29, the Board decided to seek the Parties approval for a change to the discount rate to 5.0% per annum
  - It also indicated that it intends to follow this request, at a future date, with another request to amend the Funding Policy to provide the Board with the ability to change the discount rate in the future without express Party approval

- Because we are still unaware of the Parties answers to the Board’s proposal at the time of preparing these valuation results, we were asked to provide results on both discount rates of 4.5% and 5.0% per annum, pending a final decision on which discount rate to be used

Valuation as at January 1, 2023 - Highlights

	January 1, 2023		January 1, 2022
	4.5% Discount Rate	**5.0% Discount Rate**	
Funding Policy Valuation Funded Status - Funding Policy Excess (Unfunded Liability) - Termination Value Funded Ratio	 $4.0M 100.5%	 $46.2M 106.4%	 $80.0M 111.0%
Normal Cost and Excess Contributions - Total Contributions - Normal Cost - Excess Contributions	 40.6% of payroll 14.6% of payroll 26.0% of payroll	 40.6% of payroll 13.2% of payroll 27.4% of payroll	 40.6% of payroll 14.6% of payroll 26.0% of payroll
Open Group Funded Ratio	117.4%	125.4%	129.6%
Primary Risk Management Goal (goal of 97.5%) Secondary Risk Management Goal	98.60% 103.3% of CPI	98.60% 104.1% of CPI	98.60% 98.6% of CPI

Funding Policy Valuation Results

Funding Policy Valuation

Membership Reconciliation

	Active	Disabled	Deferred Vested	Retirees & Survivors
As at January 1, 2022	777	27	47	946
New members	40	---	---	---
Return to Active Status	---	---	---	---
Retirements	(28)	(4)	---	32
Transferred to Disabled	(4)	4		
Terminations				
Deferred Vested	(15)	---	15	---
Paid lump sum	(15)	---	(5)	---
Outstanding	---	---	---	---
Deaths or cessation of pension	(1)	---	---	(44)
New Survivor Pensions	---	---	---	19
Cessation of Dependent Pension	---	---	---	---
Data Adjustments	---	---	---	---
As at January 1, 2023	754	27	57	953

Funding Policy Valuation

Data Summary

	January 1, 2023	January 1, 2022
Actives		
Number	754	777
Average salary	$87,133	$82,493
Average age	45.1 years	45.0 years
Average pensionable service	13.8 years	13.9 years
Average accrued pension	$22,607	$22,332
Disabled Members		
Number	27	27
Average age	58.5 years	58.7 years
Average accrued pension	$42,503	$41,073
Deferred Vested		
Number	57	47
Average age	44.4 years	44.8 years
Average annual pension	$14,108	$11,032
Pensioners & Survivors		
Number	953	946
Average age	72.6 years	72.4 years
Average annual pension	$41,949	$39,887

Reconciliation of Market Value of Assets

(in $M)	2022	2021
Market value at beginning of year	$810.0	$719.6
Plus:		
- Member contributions	$6.7	$6.4
- City contributions	$19.7	$18.9
- Investment income (including capital gains/losses)	($26.5)	$105.3
Sub-total	($0.1)	$130.6
Minus:		
- Pension and refunds	$39.0	$37.5
- Expenses	$2.9	$2.7
Sub-total	$41.9	$40.2
Market value at end of year	$767.9	$810.0
Net investment return [1]	(3.7%)	14.4%

[1] *These rates assume cash flows occur mid-year and are net of expenses.*

Funding Policy Valuation

Economic Assumptions

Item	January 1, 2023	January 1, 2022
Interest rate	4.50% & 5.00% per annum	4.50% per annum
Salary increases	2.85% per annum	2.85% per annum
Pension increases	Contingent on plan performance	Contingent on plan performance
Inflation	2.10% per annum	2.10% per annum

Funding Policy Valuation

Demographic Assumptions

Item	January 1, 2023			January 1, 2022		
Retirement Age	Rule of 88			Rule of 88		
Mortality	70% CPM Priv 2014, 30% CPM Publ 2014 weighted table, projected with improvement scale B with adjustment factors of 105% for males and 102% for females			70% CPM Priv 2014, 30% CPM Publ 2014 weighted table, projected with improvement scale B with adjustment factors of 105% for males and 102% for females		
Termination rates	Age	Males	Females	Age	Males	Females
	22	9.0%	13.1%	22	9.0%	13.1%
	27	5.3%	10.9%	27	5.3%	10.9%
	32	2.6%	7.1%	32	2.6%	7.1%
	37	1.4%	4.5%	37	1.4%	4.5%
	42	0.9%	2.6%	42	0.9%	2.6%
	47	0.5%	0.8%	47	0.5%	0.8%
	52+	0.0%	0.0%	52+	0.0%	0.0%
Disability rates	Loading Normal Cost by 0.20% of payroll			Loading Normal Cost by 0.30% of payroll		
Proportion with spouse	85%			85%		
Spousal age difference	Males 2 years older than females			Males 2 years older than females		

Funding Policy Valuation

Demographic Assumptions

Item	January 1, 2023			January 1, 2022		
New entrants (for future cash flows and stochastic analysis)	Police and Fire			Police and Fire		
	Age	Percentage	Salary at Entry	Age	Percentage	Salary at Entry
	23	33.33%	$100,000	23	33.33%	$94,000
	29	33.33%		29	33.33%	
	35	33.33%		35	33.33%	
	Regular			Regular		
	Age	Percentage	Salary at Entry	Age	Percentage	Salary at Entry
	30	33.33%	$63,000	30	33.33%	$63,000
	40	33.33%		40	33.33%	
	50	33.33%		50	33.33%	
	No net increase in active membership over next 20 years			No net increase in active membership over next 20 years		

Funding Policy Valuation Balance Sheet – 4.5%

January 1, 2023			January 1, 2022		
Item		In $M	Item		In $M
A. Market Value of Assets		$767.9	A. Market Value of Assets		$810.0
B. Funding Policy Liabilities		$763.9	B. Funding Policy Liabilities		$730.0
- Actives and Disabled	$213.6		- Actives and Disabled	$218.6	
- Pensioners & Survivors	522.1		- Pensioners & Survivors	496.4	
- Deferred Vested and Other Inactives	5.3		- Deferred Vested and Other Inactives	3.8	
- Indexing Reserve	22.9		- Indexing Reserve	11.2	
C. Excess (Unfunded Liability) [A. – B.]		$4.0	C. Excess (Unfunded Liability) [A. – B.]		$80.0
D. Termination Value Funded Ratio [A. / B.]		100.5%	D. Termination Value Funded Ratio [A. / B.]		111.0%

Reconciliation of Excess (Unfunded Liability)

	In $M
Funding policy excess (unfunded liability) as at January 1, 2022	$80.0
- Interest for one year on excess (unfunded liability)	3.6
- Contributions in excess of normal cost	17.4
- Cost of CPI indexing awarded as at January 1, 2023 at 3.36% (Step 1)	(23.9)
- Cost of early retirement rules and other ancillary benefits for service in 2021 (Steps 4 and 5)	(2.3)
- Allocation to indexing reserve (Step 6)	(11.3)
Expected funding policy excess (unfunded liability) as at January 1, 2023	$63.5
Experience gains (losses) due to:	
- Investment returns	(65.7)
- Mortality incidence	2.1
- Retirement incidence	1.8
- Terminations	0.7
- Other miscellaneous factors	1.6
Funding policy excess (unfunded liability) as at January 1, 2023	$4.0

Funding Policy Valuation Balance Sheet – 5.0%

January 1, 2023			January 1, 2022		
Item		In $M	Item		In $M
A. Market Value of Assets		$767.9	A. Market Value of Assets		$810.0
B. Funding Policy Liabilities		$721.7	B. Funding Policy Liabilities		$730.0
- Actives and Disabled	$196.0		- Actives and Disabled	$218.6	
- Pensioners & Survivors	498.1		- Pensioners & Survivors	496.4	
- Deferred Vested and Other Inactives	4.7		- Deferred Vested and Other Inactives	3.8	
- Indexing Reserve	22.9		- Indexing Reserve	11.2	
C. Excess (Unfunded Liability) [A. – B.]		$46.2	C. Excess (Unfunded Liability) [A. – B.]		$80.0
D. Termination Value Funded Ratio [A. / B.]		106.4%	D. Termination Value Funded Ratio [A. / B.]		111.0%

Funding Policy Normal Cost and Excess Contributions

Item	2023				2022	
	4.5% Discount Rate		**5.0% Discount Rate**			
	In $M	% Pay	In $M	% Pay	In $M	% Pay
A. Total normal cost	$9.6	14.6%	$8.7	13.2%	$9.4	14.6%
B. Members' contributions	$6.8	10.4%	$6.8	10.4%	$6.7	10.4%
C. City's permanent contributions	$8.7	13.2%	$8.7	13.2%	$8.5	13.2%
D. City's temporary contributions	$11.2	17.0%	$11.2	17.0%	$10.9	17.0%
E. Total contributions in excess of normal cost [B.+C.+D. – A.]	$17.1	26.0%	$18.0	27.4%	$16.7	26.0%
Present value of next 15 years of excess contributions	$128.7M		$136.8M		$135.7M	
Annual payroll	$65.7M		$65.7M		$64.1M	

Determination of Open Group Funded Ratio

Item	January 1, 2023		January 1, 2022
	4.5% Discount Rate	**5.0% Discount Rate**	
A. Market Value of Assets	$767.9 M	$767.9 M	$810.0 M
B. Funding Policy Liabilities	$763.9 M	$721.7 M	$730.0 M
C. Excess (Unfunded Liability) [A. – B.]	$4.0 M	$46.2 M	$80.0 M
D. Termination Value Funded Ratio [A. / B.]	100.5%	106.4%	111.0%
E. Present Value of 15 years of Excess Contributions	$128.7 M	$136.8 M	$135.7 M
F. Open Group Funding Excess (Unfunded Liability) [C. + E.]	$132.7 M	$183.0 M	$215.7 M
G. Open Group Funded Ratio [(A. + E.) / B.]	117.4%	125.4%	129.6%

Review Asset Liability Model

Stochastic Analysis at January 1, 2023

- Asset Liability Model:
  - Liability Projections over the next 20 years:
    - Calculate future pension plan cash flows (contributions and benefit payments)
    - Calculate future level of payroll
    - Determine liability at every future year
  - Liability projections assume:
    - No net increase in active members
    - Demographic assumptions same as funding policy valuation
    - Liability projection using a constant rate of 4.5%/5.0% per year
  - Asset returns modelled over the next 20 years using the target asset mix of the fund, expected returns, volatility and correlation of each asset class, using 10,000 different twenty-year projection scenarios of future return (represents a total of 200,000 observations of future financial positions)

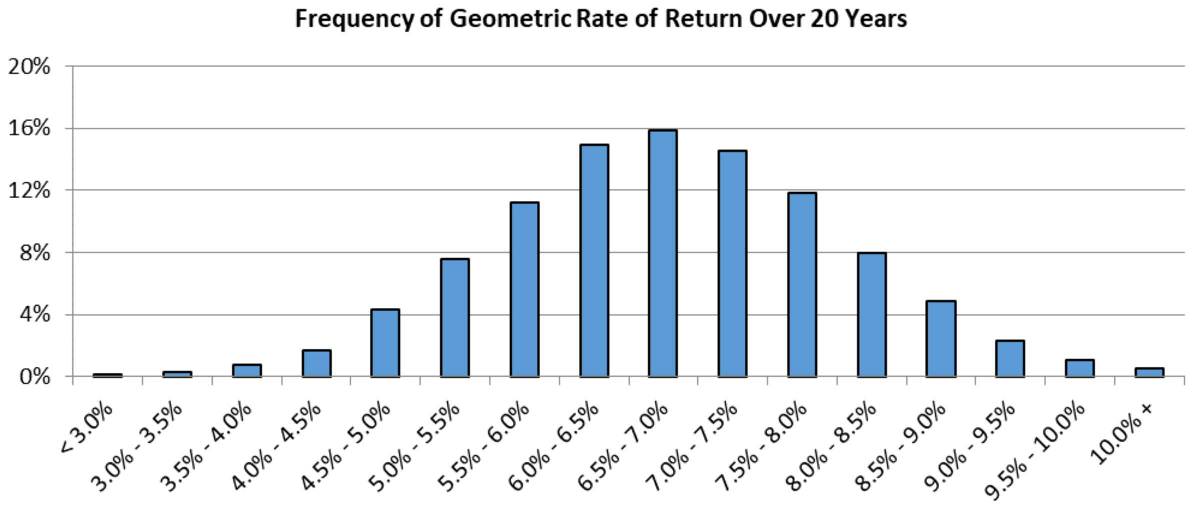
Stochastic Analysis at January 1, 2023

- Asset mix, return and volatility assumptions

	Target Asset Mix	Expected Return	Volatility (standard deviation)
Asset Classes			
Fixed Income – Short-term	1.00%	2.25%	1.40%
Fixed Income – Domestic LT Provincials	7.50%	4.30%	12.40%
Fixed Income – Domestic LT Corporates	7.50%	5.25%	11.20%
Fixed Income – Domestic Corporates	10.00%	4.45%	6.15%
Fixed Income – Global High Yield	5.00%	6.15%	11.35%
Domestic Equities	15.00%	7.25%	16.40%
US Equities	7.50%	6.25%	16.40%
International Equities	7.50%	7.45%	15.50%
Real Estate & Mortgages	15.00%	5.70%	9.00%
Infrastructure	12.00%	7.65%	12.20%
Private Equity	4.00%	9.70%	23.70%
Private Debt	8.00%	5.20%	6.20%
Total	100.0%		

Stochastic Analysis at January 1, 2023

- Annualized Rate of Return over 20 Years after 10,000 scenarios
  - Expected to beat 4.5% per annum over 20 years about 97% of the time and 5.0% per annum about 93% of the time



  - Average rate of return over all scenarios of 6.8% per annum (before expenses)

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Stochastic Analysis at January 1, 2023

- Asset Liability Model:
  - For every year in the future and for every projection scenario:
    - Open Group Funded Ratio (OGFR) is determined
    - If OGFR is above 105%, impact of actions mandated under Funding Excess Utilization Plan is modelled:
      - Granting of indexing, provided primary risk management goal is met (97.5%)
      - Providing benefit improvements beyond indexing, such as improved early retirement rules and building of indexing reserve
      - Decreasing contributions
    - If OGFR is below 100% for two years in a row, impact of actions mandated under Funding Deficit Recovery Plan is modelled:
      - Increasing contributions
      - Reducing ancillary benefits (such as subsidized early retirement reductions)
      - Reducing future accrual of benefits (by up to 5%)
      - Reducing base benefits for past and future service (triggers a benefit reduction scenario – no more than 250 scenarios out of the 10,000 can reach this step if the primary risk management goal is to be attained)
    - If OGFR is between 100% and 105%, no action may be taken

Review Risk Management Goals and Procedures

Stochastic Analysis Results as at January 1, 2023

- Main stochastic analysis results mandated under *Pension Benefits Act*

Risk Management Goal	January 1, 2023		January 1, 2022
	4.5% Discount Rate	**5.0% Discount Rate**	
Primary Risk Management Goal Probability that base benefits will not be reduced at any point over the next 20 years (goal of 97.5%)	98.60%	98.60%	98.60%
Secondary Risk Management Goal Average escalated adjustments over the next 20 years (goal of 57% of CPI, equivalent to 75% of the average of what was provided under the former plan)	103.3% of CPI	104.1% of CPI	98.6% of CPI

Risk Management Goals

When Must PBA Thresholds be Met?

- The primary risk management goal must be achieved or exceeded:
  - At January 1, 2013 (i.e. the Conversion Date);
  - At the date a “permanent benefit change” is made; or
  - At the date a “benefit improvement” is made
- The secondary risk management goal must be achieved or exceeded:
  - At January 1, 2013 (i.e. the Conversion Date); or
  - At the date a “permanent benefit change” is made

Risk Management Procedures

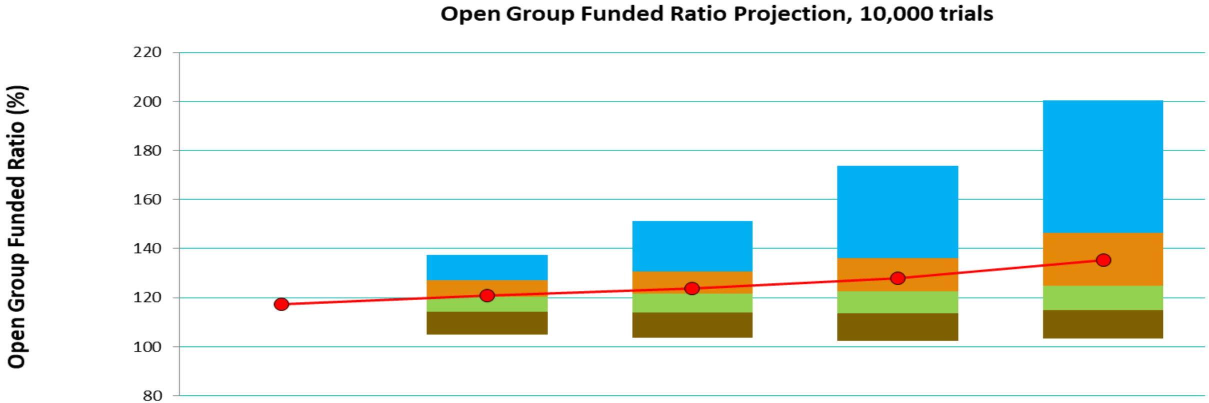
Review Process

- Annual process to manage risk in the Plan is as follows :
  1. Funding policy valuation conducted as at December 31st of each year, including calculation of the open group funded ratio
  2. Asset Liability Model reviewed, and calculation of Risk Management Goals each year
  3. Identification of Trustee action or actions required or possible under the Funding Policy
  4. Re-test Primary Risk Management Goals after action considered in 3. and if met, action in 3. can be implemented
  5. If test in step 4 not met, then change action in step 3 such that the primary risk management goal can be met
  6. Annually consider if changes to Investment Policy is required
  7. Report to Superintendent, members, employers and union

Stochastic Analysis Results as at January 1, 2023

Projection of Open Group Funded Ratio over 20 years

(at 4.5% discount rate)

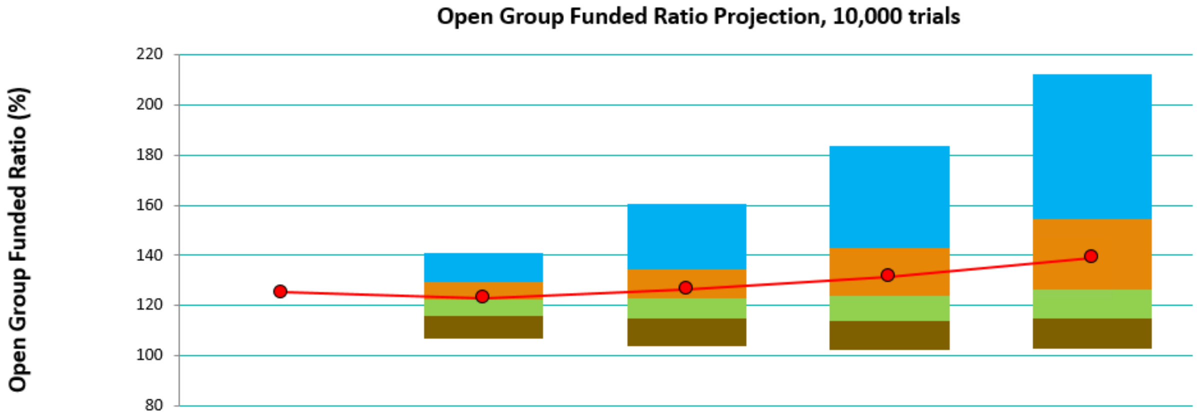


	2022-12-31	2027-12-31	2032-12-31	2037-12-31	2042-12-31
Mean	117.4%	120.7%	123.7%	128.0%	135.2%
95th Percentile	117.4%	137.3%	151.1%	173.8%	200.5%
75th Percentile	117.4%	127.1%	130.7%	136.0%	146.3%
Median	117.4%	120.5%	121.7%	122.5%	124.8%
25th Percentile	117.4%	114.1%	114.1%	113.6%	114.8%
5th Percentile	117.4%	105.0%	103.6%	102.5%	103.4%

Stochastic Analysis Results as at January 1, 2023

Projection of Open Group Funded Ratio over 20 years

(at 5.0% discount rate)



	12/31/2022	12/31/2027	12/31/2032	12/31/2037	12/31/2042
Mean	125.4%	123.0%	126.5%	131.5%	139.2%
95th Percentile	125.4%	141.1%	160.4%	183.8%	212.3%
75th Percentile	125.4%	129.5%	134.7%	142.8%	154.7%
Median	125.4%	122.4%	123.1%	124.0%	126.6%
25th Percentile	125.4%	116.0%	114.9%	114.1%	114.9%
5th Percentile	125.4%	106.9%	103.9%	102.4%	102.9%

Other Valuation Basis and Next Steps

Other Valuation Basis

Hypothetical Wind-Up Valuation

- Purpose
  - Valuation conducted to satisfy Canadian Institute of Actuaries' Standards of Practice
  - In the past, valuation provided an estimate of the deficit if the Plan was wound-up and settled on the valuation date, under the assumption that the conversion of the plan to an SRP would be void
  - Going forward, valuation will reflect an estimate of the cost of purchasing annuities, for the Plan benefits accrued as of the valuation date, both on a non-indexed basis as well as on a fully indexed basis
  - Valuation conducted only for information purposes. Does not affect the risk management tests or any decision about changes to contributions or benefits.
- Results will be added to final report

Next Steps

Review Actions Under Funding Policy

Step 1

Provisions of Funding Policy

SECTION VI – FUNDING EXCESS UTILIZATION PLAN

The funding excess utilization plan describes the actions the Board of Trustees must take or consider when the open group funded ratio exceeds 105%. However, if the open group funded ratio is above 105% and an increase in initial contribution rates under Section V is still in effect, or the open group funded ratio is at 105% or less, there are no actions that can be taken under the funding excess utilization plan.

Excess available for utilization

When action can be taken under the funding excess utilization plan, the amount available for utilization is as follows:

- 1/5th of the funds that make up the excess of the open group funded ratio at the valuation date (to a maximum of 140%) over 105%; plus
- 100% of the funds that make up the excess of the open group funded ratio at the valuation date over 140%, if any.

The actions that can be taken depend on whether the base benefits and/or ancillary benefits have ever been reduced and such reduction not subsequently reversed and on the priority order set out below.

Excess Available for Utilization

- Excess available for utilization as at January 1, 2023

Item	January 1, 2023	
	4.5% Discount Rate	**5.0% Discount Rate**
A. Funding Policy Liabilities	$763.9M	$721.7M
B. Open Group Funded Ratio	117.4%	125.4%
C. Funding Policy Threshold	105.0%	105.0%
D. Excess (as % of funding policy liabilities) [B. – C.]	12.4%	20.4%
E. Funding Policy Excess Available for Utilization [1/5th of D.]	2.48%	4.08%
F. Amount Available for Utilization [E. x A.]	**$18.9M**	**$29.4M**

Provisions of Funding Policy

SECTION VI – FUNDING EXCESS UTILIZATION PLAN

OTHER ACTIONS

If base benefits and/or ancillary benefits have never been reduced or after all previous reductions have been reversed for future payments, <u>the Board of Trustees may take the following actions</u> with respect to the amount available for utilization. <u>Such actions shall be taken in the following order of priority</u>:

1. **Provide indexing of base benefits up to the increase in the average Consumer Price Index (CPI) for Canada for the 12-month period preceding the date of the funding policy valuation report over the average of the CPI for the immediately preceding 12-month period. The indexation percentage applied to base benefits shall be the same for all members.**
2. **Provide indexing of base benefits for all members for every year that was missed or only partially covered since the Conversion Date, starting with the oldest period for which less than the full increase in the average CPI was provided up to the most recent in chronological order.**

[…]

Each of the actions above can only be implemented after confirming that the primary risk management goal is achieved after the change is made. Except for the timing of contribution reductions (described in Section IV), <u>the timing of the above actions shall be the first of the year that is 12 months after the date of the funding policy valuation report that triggered the actions.</u>

Review Actions Under Funding Policy

Increase in CPI for January 1, 2024

Increase in CPI for January 1, 2024	
A. Average Consumer Price Index (CPI) for 2022	151.2
B. Average Consumer Price Index (CPI) for 2021	141.6
C. Increase in CPI for January 1, 2024 [A. / B. - 1]	6.78%

Review Actions Under Funding Policy

Increase in CPI for January 1, 2024

CPI Indexing for CSJ SRP effective January 1, 2024	$M	% COLA	$M	% COLA
	4.5% Discount Rate		**5.0% Discount Rate**	
Total cost of maximum indexing (COLA) of 6.78%	$47.5M	6.78%	$44.7M	6.78%
Indexing which may be provided on January 1, 2024: • Indexing (COLA) provided with amount available for utilization: • Indexing (COLA) provided with amount available in the indexing reserve:	 $18.9M $22.9M	 2.70% 3.27%	 $29.4M $15.3M	 4.46% 2.32%
Total indexing (COLA) which may be provided on January 1, 2024:	$41.8M	**5.97%**	$44.7M	**6.78%**

Review Actions Under Funding Policy

- Amount of indexing the Plan can provide at January 1, 2024 is dependent on the choice of discount rate assumption
  - At a discount rate of 4.5%: 5.97%
  - At a discount rate of 5.0%: 6.78%

- Plan does not have any amount available for utilization left to provide further steps beyond Step 1 under either discount rate assumption

  - At a discount rate of 4.5%
    - The portion of CPI not awarded at January 1, 2024 can be awarded at a future date under Step 2, when sufficient surplus is available

  - At a discount rate of 5.0%
    - Any unused indexing reserve can be used for future valuations

Next Steps

Thank you

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