INDEPENDENT FISCAL OFFICE

TO: Governor Josh Shapiro
All Members of the General Assembly

FROM: Matthew Knittel, Director
Independent Fiscal Office

DATE: October 26, 2023

RE: Actuarial Note for House Bill 1416, Printer's Number 1584, Amendment A01960

The Independent Fiscal Office (IFO) submits an actuarial note for **Amendment A01960 to House Bill 1416, Printer's Number 1584** in accordance with section 615-B of the Administrative Code of 1929. Due to the material cost impact of the amendment on the bill, the IFO submitted a formal request to its contracted actuary (Milliman) for an actuarial note. A copy of the actuary's note is attached, along with an analysis prepared by the State Employees' Retirement System (SERS) in response to a request made by the IFO.

Summary of Provisions

The legislation would amend Title 24 (Education) and Title 71 (State Government) to provide supplemental annuities to individuals who retired prior to July 2, 2001 for SERS and PSERS. The legislation would enact changes to current statute that relate to annual salary cost of living adjustments (COLAs) for certain public officials.

- The legislation would provide for a supplemental annuity to begin on July 1, 2023 for eligible PSERS annuitants, and on January 1, 2024 for eligible SERS annuitants.
- To be eligible, annuitants must (1) receive an annuity by July 1, 2023 (PSERS) or January 1, 2024 (SERS); (2) be retired prior to July 2, 2001; and (3) have no credited service that qualifies as Class T-D, Class D-4, or Class AA.
- Beneficiaries and survivor annuitants of members who die prior to July 1, 2023 (PSERS) or January 1, 2024 (SERS) would not be eligible.
- Repeals current law that provides members of the judiciary, legislators, the Governor and other elected and appointed officials annual salary COLAs based on the CPI-U. These repeals would be effective the first November 30 or December 31 following enactment.
- Supplemental annuities for SERS and PSERS retirees would only go into effect if the salary COLA repeal for judicial, legislative and other public officials goes into effect.
- The amount of the supplemental annuity is based on the most recent date of retirement for the individual. The full schedule is below.

Retirement Effective Date	Annuity Increase (%)	Retirement Effective Date	Annuity Increase (%)
7/2/2000 - 7/1/2001	15.0	7/2/1990 - 7/1/1991	20.0
7/2/1999 - 7/1/2000	15.5	7/2/1989 - 7/1/1990	20.5
7/2/1998 - 7/1/1999	16.0	7/2/1988 - 7/1/1989	21.0
7/2/1997 - 7/1/1998	16.5	7/2/1987 - 7/1/1988	21.5
7/2/1996 - 7/1/1997	17.0	7/2/1986 - 7/1/1987	22.0
7/2/1995 - 7/1/1996	17.5	7/2/1985 - 7/1/1986	22.5
7/2/1994 - 7/1/1995	18.0	7/2/1984 - 7/1/1985	23.0
7/2/1993 - 7/1/1994	18.5	7/2/1983 - 7/1/1984	23.5
7/2/1992 - 7/1/1993	19.0	7/2/1982 - 7/1/1983	24.0
7/2/1991 - 7/1/1992	19.5	Prior to 7/2/1982	24.5

Review of Findings

The proposed amendment would not change the prescribed supplemental annuities to eligible SERS and PSERS retirees in any way. The amendment also does not impact the funded status of PSERS as none of its active members would be affected by the amendment. However, Amendment A01960 would have an actuarial impact on SERS. The table below details the projected changes.

Impacts of Amendment A01960 to House Bill 1416, P.N. 1584 (SERS Only)

	Base	A01960	Change
Commencement Date	1/1/2024	1/1/2024	--
Individuals	25,334	25,334	0
Benefit Increases			
Avg. Annual First Year (actual $)[1]	$2,240	$2,240	$0
Lifetime[2]	$566.4	$566.4	$0.0
Initial Change			
Unfunded Actuarial Liability	+$371.0	+$323.7	-$47.3
Funded Ratio	-0.46%	-0.40%	+0.06%
Employer Contr. Rate	+0.74%	+0.60%	-0.14%
Annual Amortized Cost[3]	$52.5	$45.8	-$6.7

Note: Dollars in millions, unless otherwise noted.

1 The number of indentified individuals and the projected first year payments as provided by the systems. Does not take into account projected changes in annuitant demographics, including mortality.

2 Additional retirement benefits paid over the lifetime of the annuitants and qualified beneficiaries.

3 The base bill assumes a 10-year level dollar amortization for benefit increases. The proposed amendment does not specify an amortization methodology so a 10-year level dollar amortization period was assumed by SERS.

In addition to the reduction in amortized costs, the amendment would also reduce normal costs, which are charged to employers, by $5.2 million in fiscal year 2024-25. Total employer contributions would decrease $11.9 million for that fiscal year compared to the costs in the base bill.

Additional notes on the impact of Amendment A01960:

- The figures in the table were generated based on the assumption that the legislation as amended would pass before November 30, 2023. If that assumption holds, no additional annual COLAs for these public officials would be authorized under current law. If the legislation as amended does not pass until after the annual deadlines for COLAs (November 30 or December 31) for these public officials, the cost savings realized by the system would decrease.
- Similarly, if the legislature were to grant pay increases in the future, those increases would offset or eliminate the savings generated by this amendment.
- SERS was only able to identify legislative and judicial members. Other elected and appointed officials (e.g., Governor, Lieutenant Governor) whose COLAs would also be eliminated under the amended legislation were not included in the analysis. Additional savings would be realized for those individuals; however, the additional impact is not expected to be material.
- As noted by Milliman, SERS' actuary assumed a 0.3% per annum salary increase for members of the legislature and judiciary to account for future promotions. Milliman notes that while this methodology may be realistic for SERS membership as a whole, it may need to be refined in the future for the classes of employees examined in this note. Milliman notes that due to the salary projections applied to legislators and the judiciary, employer contribution rates in the out years could be understated (they may be higher than projected).
- As the payroll for SERS decreases, employer contribution rates will need to increase to cover the unfunded assets of the system. The analysis projects that total contributions from all employers will be reduced 0.3% over the 30-year period; however, the employer rates, including non-legislative and judicial employers, must increase to cover the decrease in payroll.

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October 26, 2023

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Re: Amendment A01960 to House Bill 1416, Printer's Number 1584

Dear Mr. Knittel:

As you requested, we have prepared an actuarial note on Amendment A01960 to House Bill 1416, Printer's Number 1584. This Amendment would remove the automatic cost-of-living adjustments prospectively on the compensation paid to Commonwealth public officials, such as judges and justices, Commonwealth government leaders, and members of the Pennsylvania General Assembly. The Amendment would also amend the Public Official Compensation Law to repeal the sections that provide for a cost-of-living adjustment.

The cost estimate provided by the System's actuary for this Amendment was combined with the cost estimate for House Bill 1416, Printer's Number 1584, which would provide increased benefits to certain retirees. As requested, this analysis provides the costs solely for this Amendment.

Executive Summary

This Amendment would remove the automatic cost-of-living adjustments prospectively on the compensation paid to Commonwealth public officials, such as judges and justices, Commonwealth government leaders, and members of the Pennsylvania General Assembly. As most public officials participate in the State Employees' Retirement System ("SERS"), this Amendment would impact the prospective salaries, and thus the projected benefits, for legislators and judges reflected in the actuarial valuation.

Based on the SERS' actuary's projections, assuming no future cost-of-living adjustments to the compensation for legislators and judges would initially result in a decrease in the employer contribution rate in FY 2024-2025 by 0.14% and a small increase in the funded status due to the decrease in the actuarial liability for current impacted members.

If the Amendment is enacted, the overall employer contribution rate percentage would increase in the long-term (beginning in FY 2033-2034 in the SERS' actuary's projections) and the funded status is projected to decrease slightly. Because public officials would not be receiving cost-of-living adjustments to their compensation, the overall SERS payroll would decline. As the amortization dollar payments (established by December 31, 2022) would not change but the projected payroll would be declining, the resulting accrued liability contribution rate would increase.

As directed, the cost estimate assumed no future cost-of-living adjustments would occur on impacted members' salaries and, thus, no future ad-hoc increases in public official compensation were assumed. Korn Ferry noted that "the risk associated with this assumption is that little savings may happen if future legislators or the courts make any changes that lead to different experience". **If the Amendment is enacted and future increases in compensation are provided in the future to public officials prior to their retirement, the initial savings provided by the Amendment would be reduced (or even eliminated depending on the compensation increase received).** In addition, if future salary increases are granted on an ad-hoc basis, future liabilities of SERS would increase and would then be paid by higher contributions after receipt of those increases. From an actuarial perspective, it would be better to anticipate such increases prospectively in the funding of the System.

The SERS' actuary assumed that public officials would continue to receive merit increases of 0.3% per year as there are higher paying positions that public officials (such as judges and legislators) can move into during their career. This assumption was developed based on all SERS members and we recommend that the experience study review this assumption specifically for public officials if the Amendment is enacted.

The results of the modeling can be used to understand the pattern of emerging costs and liabilities due to the proposed changes but should not be relied upon as a guarantee of actual costs to be incurred. Future funding obligations will be determined by an actuarial valuation of SERS as of the future valuation dates. Actual plan costs will ultimately be determined by the benefits provided by SERS based on actual experience of its members and not by the actuarial calculations provided for this Amendment.

Please note that not all public officials impacted by this Amendment participate in the defined benefit portion of SERS. Any savings related to other retirement plans are not reflected in SERS' actuary's nor our analysis. It is also assumed that the number of future public officials who are assumed to elect SERS participation is unaffected by this Amendment.

Summary of the Amendment

This Amendment would remove the automatic cost-of-living adjustments prospectively on the compensation paid to Commonwealth public officials, such as judges and justices, Commonwealth government leaders, and members of the Pennsylvania General Assembly. Such adjustments would cease for periods beginning after December 31 (for judges, justices and Commonwealth government leaders) and after November 30 (for members of the Pennsylvania General Assembly) which first follows the effective date of the Amendment. The Amendment would also amend the Public Official Compensation Law to repeal the sections that provide for a cost-of-living adjustment. As a result, public officials (e.g. elected officials and appointees) would no longer receive annual salary increases related to changes in inflation.

Discussion of the Amendment

This Amendment would remove the automatic cost-of-living adjustments prospectively on the compensation paid to Commonwealth public officials, such as judges and justices, Commonwealth government leaders, and members of the Pennsylvania General Assembly. As most public officials participate in SERS, this Amendment would impact the prospective salaries for legislators and judges reflected in the actuarial valuation. If this Amendment is enacted, the assumed salary increases for legislators and judges would not include an inflationary component.

This change would also impact the projected future payroll of SERS members. Because a portion of the membership would not be receiving inflationary salary increases, the total payroll in future years would be less if the Amendment is enacted. This would lead to an increase in the overall employer contribution rate percentage in the long-term (beginning in FY 2033-2034 in the SERS' actuary's projections). For amortization bases established by December 31, 2022, as the amortization dollar payments would not change but the projected payroll would be declining, the resulting accrued liability contribution rate would increase.

The change in the accrued liability due to the Amendment would be funded in equal dollar installments over a 10-year period in accordance with Section 5508(c) as the change in the accrued liability is due to legislation.

Review of Estimated Actuarial Cost Prepared by System Actuary

The IFO provided us with a copy of the October 23, 2023 estimate by Korn Ferry for SERS. In addition, Korn Ferry has provided us with additional details regarding their cost estimates. We appreciate their cooperation in providing this information on a timely basis.

The estimate contains the projected increase in the unfunded actuarial accrued liability, the increase in normal cost, and first year of amortization payments due to this Amendment assuming it is effective prior to November 30, 2023 along with projections of the employer contributions in dollars and in percentages of payroll, the unfunded liability and the funded status.

We have reviewed the estimate and found that the first year impact of this Amendment appears to be reasonable. For the second and later years, while we agree that the employer contribution rate would initially be reduced and then increase if the Amendment were enacted, we believe that the employer contribution rate may be understated in certain latter years of the 30-year projection period due to a potential understatement of the projected salary reduction as discussed below.

Due to Korn Ferry's current projection methodology, a simplified approach was used to estimate the impact of this Amendment on new Public Official entrants into SERS. We believe this simplified approach is overstating the projected future payroll in the latter years of the 30-year projection period as the simplified approach does not reflect the compound nature of salary increases. This results in an understatement of the projected employer contribution rate in certain latter years of the projection. When looking at SERS in the aggregate, the current projection methodology is reasonable, but when looking solely at legislators or judges, the methodology is not granular enough. Korn Ferry indicated that they plan to improve their projection methodology in conjunction with the next valuation. Note that legislators and judges comprise just over 1% of SERS active membership on a count basis and just over 2% on a compensation basis.

Korn Ferry's estimate reflected 1,077 active members as of December 31, 2022, who would be impacted by this Amendment – 136 legislators and 941 judges. Korn Ferry indicated that there are a small number of other active members (such as Commonwealth government leaders and legislators in Classes A5 and A6) who would be affected by the Amendment, but were not able to be identified prior to performing the analysis. They indicated that the missing group would have a de minimis impact on the results. We have not been provided the underlying data files to review the accuracy of these calculations and have relied upon them in our analysis.

As directed, the cost estimate assumed no future cost-of-living adjustments during the projection period. No future ad-hoc increases in public official compensation were assumed. Affected members were assumed to receive annual salary increases of 0.3% per year, reflecting potential promotions within the legislature and the judiciary. The 0.3% assumption was determined based on all SERS membership and not just the public officials impacted by this Amendment. We suggest that the salary increases associated with just public officials be reviewed to determine if the 0.3% assumption is reasonable and represents the best estimate for this population.

Based on this estimate for SERS, the table below contains the estimated change in the unfunded actuarial accrued liability, the change in the normal cost, and the change in the first year of amortization payments due to this Amendment assuming the Amendment was effective before November 30, 2023.

Estimated Actuarial Cost of Amendment A01960
to House Bill 1416, Printer's Number 1584
($ amounts in millions)

	Amendment A01960
Change in Unfunded Actuarial Accrued Liability (UAL) as of December 31, 2023	$(47.3)
Change in First Year Employer Contribution	
Normal Cost	(5.2)
UAL Amortization	(6.7)
Total	(11.9)
Change in First Year Employer Contribution Rate	
Normal Cost	(0.07%)
UAL Amortization	(0.10%)
Total	(0.17%) [1]

[1] The projections provided as part of the supplemental information submission indicate that the FY 2024-2025 employer contribution rate would decrease by 0.14% of payroll versus the 0.17% shown in the table. Because the Amendment would reduce the projected payroll for FY 2024-2025, the projected employer contribution rate determined prior to the reductions in the normal cost and amortizations would increase by 0.03% of payroll.

Based on the information provided for SERS, the Amendment would result in a slight increase in the funded ratio as of December 31, 2023. The projected SERS' funded ratio as of December 31, 2023 would increase by approximately 0.06%.

If the Amendment is enacted, the overall employer contribution rate percentage would increase in the long-term (beginning in FY 2033-2034 in the SERS' actuary's projections). Because public officials would not be receiving cost-of-living adjustments to their compensation, the overall SERS payroll would decline. As the amortization dollar payments (established by December 31, 2022) would not change but the projected payroll would be declining, the resulting accrued liability contribution rate would increase resulting in contribution increases for other participating employers. The total amount of employer contribution dollars projected to be paid during the 30-year projection period would be reduced by 0.3% if the Amendment were enacted.

Basis for Analysis

In performing this analysis, we have relied on the information provided by the IFO, SERS, and Korn Ferry. We have not audited or verified this data and other information. If the data or information is inaccurate or incomplete, the results of this analysis may likewise be inaccurate or incomplete.

We performed a limited review of the cost estimates prepared by Korn Ferry as provided by the IFO and SERS for reasonableness and consistency and have not found material defects. If there are material defects, it is possible that they would be uncovered by a detailed, systematic review and comparison to search for values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Future actuarial measurements may differ significantly from the current measurements presented in this analysis due to actual plan experience deviating from the actuarial assumptions, the natural operation of the plan's actuarial cost method, and changes in plan provisions, actuarial assumptions, actuarial methods, and applicable law. An assessment of the potential range and cost effect of such differences is beyond the scope of this analysis.

As the reviewing actuary, Milliman is not required to provide a risk disclosure under Actuarial Standard of Practice No. 51 *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions* nor the additional disclosures required for funding valuations under Actuarial Standard of Practice No. 4 *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*.

Milliman's work is prepared solely for the internal business use of the Pennsylvania Independent Fiscal Office. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

- The IFO may provide a copy of Milliman's work, in its entirety, to its professional service providers who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to provide services to the IFO.
- The IFO may provide a copy of Milliman's work, in its entirety, any applicable regulatory or governmental agency, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. We have not explored any legal issues with respect to the proposed changes. We are not attorneys and cannot give legal advice on such issues. We suggest that you review this proposal with counsel.

We are members of the American Academy of Actuaries and meet its Qualification Standards to render this actuarial opinion.

Please let us know if we can provide any additional information regarding this Amendment.

Sincerely,

Timothy J. Nugent

Scott F. Porter

Katherine A. Warren

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Actuarial Cost Note Regarding H.B. 1416, P.N. 1584
As Amended by A01960
To Estimate the Cost Impact of a Proposed Cost of Living Adjustment
to the Pennsylvania State Employees Retirement System

October 23, 2023

The following is an actuarial cost note which describes and presents the estimated cost impact of proposed legislation (under House Bill 1416, Printer's Number 1584 that would provide a Cost-of-Living Adjustment (COLA) to certain retired members of the Pennsylvania State Employees' Retirement System (SERS), commencing with the first monthly annuity payment after January 1, 2024.

Design of the COLA

If this bill became law, retired members meeting all three (3) of these conditions would be eligible for the COLA:

- The retired member must be either a retiree who has reached superannuation age or a disabled retiree or an early retiree (who would become eligible for the COLA upon reaching superannuation age) receiving an annuity on January 1, 2024;
- The retired member's most recent effective date of retirement would have to be prior to July 2, 2001, and
- The retired member's credited service may not include any service credited as Class AA or Class D-4 (or Class T-D).

If enacted, the amount of the COLA increase, which would commence with the first monthly annuity payment after January 1, 2024, will be determined as a percentage of the amount of the monthly annuity payment on January 1, 2024, such percentage being specifically prescribed on the basis of the eligible member's most recent effective date of retirement. Table 1 on the following page provides the specific COLA increase percentages and effective dates of retirement proposed under this bill.

Other noteworthy provisions relating to the design of this proposed COLA include:

- Beneficiaries or survivors of members who die before January 1, 2024 are not eligible and
- The COLA will be payable under the same terms and conditions as provided under the option plan in effect as of January 1, 2024.

Funding of the COLA

The bill states that "… the additional liability for the increase in benefits provided under this section shall be funded in equal dollar installments over a period of 10 years beginning July 1, 2024."

Proposed COLA Increases

The proposed COLA increase percentages are presented in Table 1 below.

Table 1
Proposed COLA Increases
Effective After January 1, 2024 &
Payable to Eligible Retired Members
Who Retired Prior to July 2, 2001

Most Recent Effective Date of Retirement	Proposed COLA Increase
Prior to July 2, 1982	24.5%
July 2, 1982 - July 1, 1983	24.0%
July 2, 1983 - July 1, 1984	23.5%
July 2, 1984 - July 1, 1985	23.0%
July 2, 1985 - July 1, 1986	22.5%
July 2, 1986 - July 1, 1987	22.0%
July 2, 1987 - July 1, 1988	21.5%
July 2, 1988 - July 1, 1989	21.0%
July 2, 1989 - July 1, 1990	20.5%
July 2, 1990 - July 1, 1991	20.0%
July 2, 1991 - July 1, 1992	19.5%
July 2, 1992 - July 1, 1993	19.0%
July 2, 1993 - July 1, 1994	18.5%
July 2, 1994 - July 1, 1995	18.0%
July 2, 1995 - July 1, 1996	17.5%
July 2, 1996 - July 1, 1997	17.0%
July 2, 1997 - July 1, 1998	16.5%
July 2, 1998 - July 1, 1999	16.0%
July 2, 1999 - July 1, 2000	15.5%
July 2, 2000 - July 1, 2001	15.0%
July 2, 2001 and After	0.0%

Estimated COLA Impact and Costs

Table 2 on the following page presents some approximate statistics related to the impact if this proposed COLA were to become law, as well as the estimated additional liability and annual cost to SERS, based upon funding in equal dollar annual installments over a 10-year period beginning July 1, 2024.

The estimated number of retirees to receive the proposed COLA is based on the number eligible to receive the COLA as of December 31, 2022. The average increase is the overall average increase the eligible members (as of December 31, 2022) would receive.

Table 2 Impact & Estimated Cost of Proposed COLA Increase (dollars in millions)	
Effective date of first COLA payment	After January 1, 2024
Funding date	July 1, 2024
Estimated number of retirees to receive COLA	25,334
Average COLA increase	17.79%
Expected payroll in fiscal year 2024/2025	$7,103.6
Increase in liability	$371.0
Level annual 10-year funding payment As a percent of projected payroll	$52.5 0.74%

Amendment A01960

Amendment A01960 removes the statutory active salary increases for elected officials and appointees. Our data identifies legislators and judges/justices who fall into this category, so that is the group we used to estimate the impact of the amendment. There is a relatively small group of affected members who are not in that data, but that missing group has a de minimis impact on these results. The following represents the impact of COLA with the amendment.

Table 3 Impact & Estimated Cost of Proposed COLA with Amendment (dollars in millions)	
Reduction in Normal Cost	($5.2)
Expected payroll in fiscal year 2024/2025	$7,097.8
Increase in liability for COLA Reduction in liability for pay restriction Net Increase	$371.0 ($47.3) $323.7
Level annual 10-year funding payment Normal Cost Adjustment FY25 Net FY25 Impact As a percent of projected payroll	$45.8 ($5.2) $40.6 0.57%

The amendment does not specify the amortization period to use for the removal of the statutory pay increases, so we assumed 10 years was intended. Since this specific change is not to the retirement code, it does not default to 10 years. In addition, we followed guidance from the Independent Fiscal Office that we should assume, for informational purposes, that no future statutory pay increases will apply. The risk associated with this assumption is that little savings may happen if future legislators or the courts make any changes that lead to different experience.

Methods and Assumptions Underlying Tables 2 and 3 Results

The data used for this cost estimate is based on a special run provided by SERS that included all retirements through December 31, 2022. The data included age, gender, date of retirement, and both the initial and current monthly benefit for the retired population as of December 31, 2022. The estimated number of retirees to receive the COLA is based on the number of retirees in payment status as of December 31, 2022.

The liability was determined by using the actuarial assumptions and methods underlying the December 31, 2022 actuarial valuation. The expected payroll figure shown above is as of the first fiscal year in which the COLA will be funded. It is the December 31, 2022 valuation funding payroll projected forward one year.

The valuation results were produced using a proprietary actuarial valuation system, Pension Valuation Language (PVL). PVL has been actively used for over 40 years to perform annual funding/accounting valuations, gain and loss analyses, and cost studies for a wide variety of retirement systems. PVL was created specifically to value pension plan liabilities and uses the applicable assumptions and methods along with the pension plan census data to produce appropriate results. Test lives are generated to review the accuracy of both the input and output, allowing the users to confirm with a high degree of accuracy how the programmed benefit is applied to an individual along with the proposed decrements and other assumptions. The actuarial team loads the participant data, programs the benefit provisions, enters the applicable assumptions into the model, and reviews sample life output and results under the supervision of a credentialed actuary or actuaries who are proficient users of the software. We are not aware of any material limitations in the model nor any material inconsistencies in the assumptions used within the model.

Potential Risks Related to the COLA

The liabilities and costs in this cost note are based upon actuarial assumptions utilized in the December 31, 2022 actuarial valuation of SERS. These measurements represent a single estimate of the future liabilities and costs of SERS. Since the actual liabilities and costs will be determined based upon (i) the future actuarial assumptions underlying such future measurements and (ii) the actual future experience of SERS, there is a risk that future measurements will differ from those presented in this cost note.

To provide readers of this cost note with a greater appreciation for the sensitivity of these results to potential future changes in both the underlying actuarial assumptions and future SERS experience, we have performed three additional liability calculations:

- One liability calculation, based upon a 5.875% underlying interest rate assumption (a full 1% lower than the 6.875% assumption currently applicable to SERS). This is for the purpose of showing the extent of increase that would occur in our liability result if a 1% lower interest rate assumption applied in the future. Our resulting liability (based on the 5.875% interest rate) was $390.9 million, or 5.4% greater than the Table 2 liability increase of $371.0 million.
- A second liability calculation, based upon the assumption that the actual future

mortality rates experienced by the retirees eligible for the proposed COLA increases are 10% lower than those currently assumed for SERS annuitants for a 10-year period and then revert back to current mortality assumptions after. This is in order to show the extent of increase that would occur in our liability result if the COLA-eligible SERS retirees had favorable future longevity. Our resulting liability (based on the more favorable mortality rates) was $384.6 million, or 3.7% greater than the Table 2 liability increase of $371.0 million.

- A third liability calculation, based upon both of the two adjustments described above. Our resulting liability (based on the 5.875% interest rate and the 10% lower assumed mortality rates for 10 years) was $405.6 million, or 9.3% greater than the Table 2 liability increase of $371.0 million.
- The amendment impact assumes no future pay increases; however, this is unlikely since future courts or legislatures can act to override the amendment pay limitation. Therefore, the risk associated with this amendment is that the cost reduction impact may be nullified and the full COLA cost may be recognized.

Again, we are presenting the above supplemental results to be responsive to ASOP 51, hoping to enhance understanding and appreciation of SERS' risk exposure for readers of this cost note.

Actuarial Certification

To the best of our knowledge, the information we are presenting herein is complete and accurate and all costs and liabilities have been determined in conformance with generally accepted actuarial principles and on the basis of actuarial assumptions and methods which are reasonable (taking into account the past experience of SERS and reasonable expectations) and which represent our best estimate of anticipated experience under the plan.

The actuaries certifying to this valuation are members of the Society of Actuaries or other professional actuarial organizations and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion.

Please let us know if you have any questions on any of this.

Respectfully submitted,

Korn Ferry

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October 23, 2023