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January 11, 2016

Mrs. Maria Walden
Director of Legislation and Policy
PSRS and PEERS of Missouri
3210 West Truman Blvd.
Jefferson City, MO 65109

Re: Public School Retirement System of Missouri – Fiscal Impact House Bill No. 1420 - Increase Benefit Formula Multiplier to 2.55% After 31 Years of Service

Dear Maria:

As requested and pursuant to our engagement letter with the Public School and Education Employee Retirement Systems of Missouri ("PSRS and PEERS of Missouri") dated June 9, 2014 (and amended April 16, 2015), we have estimated the fiscal impact of House Bill No. 1420 ("HB 1420"), which proposes a change to the Public School Retirement System ("PSRS", or "System"). Our understanding of the proposed change, a description of the analysis we performed, and summary results of our analysis are included in this letter below. Detailed results of our analysis, summaries of the assumptions selected by PSRS for purposes of this analysis, benefit provisions reflected in our analysis, and other disclosures related to our analysis can be found in the following enclosed exhibits:

- Exhibit I – Detailed impact to the Funded Status and Actuarially Determined Contribution Rate
- Exhibit II – Actuarial Assumptions and Methods used in our analysis
- Exhibit III – Plan Provisions used in our analysis
- Exhibit IV – Disclosures relating to our analysis

Proposed Change:

It is our understanding that the proposed change contained in HB 1420 is similar to HB 478 (2015) and SB 219 (2015). Specifically, the proposal would increase the PSRS benefit formula multiplier from 2.50% to 2.55% for members who retire with 31 or more years of service. The increased multiplier would apply to all years of service. This benefit was a temporary feature of PSRS that expired on July 1, 2014, in accordance with prior legislation. The proposal would reinstate this benefit and make it a permanent feature of the plan for future retirees.

For our analysis, the proposed change was assumed to be in effect for members who retire after July 1, 2015. It was not assumed to apply retroactively for members who retired on or between July 2, 2014 and July 1, 2015.

Analysis:

The table below (Table 1) summarizes the estimated fiscal impact of the proposed change. Our analysis is based on the census data, assumptions, and methods used in the June 30, 2015 actuarial valuation of PSRS.

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Table 1: Summary Results

($ in Millions)	BASELINE - June 30, 2015 Valuation	Change Benefit Formula Multiplier to 2.55% After 31 Years of Service [1]	Change
Funded Status			
Present Value of Future Benefits ("PVFB")	$48,771.7	$48,764.4	($7.3)
Actuarial Accrued Liability ("AAL")	$40,610.5	$40,532.3	($78.2)
Actuarial Value of Assets ("AVA")	$34,073.4	$34,073.4	$0.0
Funded Percentage (AVA / AAL)	83.90%	84.06%	0.16%
Actuarially Determined Contribution Rate			
Normal Cost Rate	18.69%	18.62%	(0.07%)
Unfunded Actuarial Accrued Liability Amortization Rate	9.42%	9.32%	(0.10%)
Actuarially Determined Contribution Rate ("ADC Rate")	28.11%	27.94%	(0.17%)

[1] Reflects a change in assumed retirement behavior to reflect a larger percentage of members working to 31 years of service and beyond to receive the higher benefit multiplier

Please note that the PVFB represents the present value of all benefits expected to be paid to members of PSRS. This includes benefits that have been earned through service accrued to date (i.e. accrued liability) and benefits that will be earned through future service (i.e. future normal cost). The AAL is the portion of the PVFB attributed to past service using the Entry Age Normal (level percent of pay) actuarial cost method, consistent with the Board's funding policy.

A change in PVFB typically affects future contribution rates due to a change in future normal costs as well as amortization of the change in accrued liability. Because the PVFB is estimated to decrease, the ongoing cost of the system, represented by the ADC Rate, is also expected to decrease. The ADC Rate is the sum of two components:

1. The Normal Cost Rate = the ongoing cost of future benefit accruals.
2. The Unfunded Actuarial Accrued Liability Amortization Rate = the cost of amortizing the current unfunded AAL.

When the 2.55% benefit formula is available, a larger percentage of active members are assumed to delay retirement until they earn 31 years of service or more. Although delaying retirement results in a higher monthly benefit for the member, the present value of the delayed higher monthly benefit is less than the present value of the unreduced benefit that could be taken after 30 years of service under the current 2.50% formula multiplier for the active population as a whole. The reasons being that delaying retirement results in the member forgoing receipt of benefit payments, delaying future cost-of-living adjustments, and reducing the period of time that they will receive pension payments. As such, the PVFB is estimated to decrease when the 2.55% benefit formula is available because a larger percentage of members are assumed to delay retirement until they earn 31 years of service or more. To the extent members do not delay retirement, the impact of the benefit change would be a small increase in PVFB compared to the "BASELINE" results shown.

Since the proposed change results in a reduction in the AAL, the estimated decrease in unfunded AAL resulting from the plan change is amortized over 30 years as level percent of pay in the calculation of the ADC Rate.

Please note the following when reviewing the results:

- Our analysis was performed by measuring the impact of the change at June 30, 2015, using census data collected from PSRS and PEERS of Missouri as of June 30, 2015. Our estimates do not incorporate the impact of future employees who may become members of PSRS. Please refer to our actuarial valuation report dated October 23, 2015 for a summary of the census data.

- The BASELINE results shown in Table 1 above and in the enclosed Exhibit I equal the results of our June 30, 2015 valuation of the system.

- Our analysis was performed based on our understanding of the current PSRS benefit provisions as set forth in Chapter 169 of the Missouri Revised Statutes, as well as the modification to those statutes to affect the change described above.

- Our analysis illustrates the estimated change in the Actuarially Determined Contribution Rate, which may or may not affect the actual contribution rates set by the Board.

- Our analysis does not include any additional administrative cost that may be incurred by PSRS of Missouri to implement this change.

- Our analysis was completed using assumptions and methods that are consistent with the funding policy adopted by the Board of Trustees of PSRS of Missouri, with the exception of the retirement assumption. Assumed retirement behavior was modified when the 2.55% benefit formula multiplier is available to reflect a larger percentage of members working to 31 years of service and beyond to receive the higher benefit multiplier. The results do not reflect application of Governmental Accounting Standards applicable to pension plans.

- Our analysis is based on the specific assumptions disclosed herein. The most recent comprehensive experience study was completed in 2011 and was based on member experience between June 30, 2005 and June 30, 2010. The next experience study is scheduled to be completed in 2016. At that time, all actuarial assumptions, including the mortality and retirement assumptions, will be reassessed and various changes are likely to be adopted by the Board. The result of our analysis is heavily dependent on the assumptions used.

- The actual cost of the proposed benefit change will depend on the actual future experience of plan members.

The assumptions and methods for quantifying the fiscal impact are noted in Exhibit II. The PSRS plan provisions are noted in Part A of Exhibit III and the changes in plan provisions for quantifying the fiscal impact are noted in Part B of Exhibit III. Actual costs will differ based on demographic experience compared to the assumptions selected by PSRS for this cost analysis.

To the best of our knowledge this actuarial statement is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations are also consistent with our understanding of Missouri state law. The undersigned actuaries are members of the Society of Actuaries and other professional organizations, including the American Academy of Actuaries, and meet the

Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States relating to pension plans. There is no relationship between the PwC practitioners involved in this engagement and PSRS and PEERS of Missouri that may impair our objectivity.

The content of this document is limited to the matters specifically addressed herein and does not address any other potential tax consequences, or the potential application of tax penalties, to any matter other than as set forth herein. Our conclusions are not binding upon any taxing authority or the courts and there is no assurance that any relevant taxing authority will not successfully assert a contrary position. In addition, no exceptions (including the reasonable cause exception) are available for any federal or state penalties imposed if any portion of a transaction is determined to lack economic substance or fails to satisfy any similar rule of law, and our advice will not protect you from any such penalties. This document supersedes all prior written or oral advice with respect to the issues addressed in this document and all such prior communications should not be relied upon by any person for any purpose. This document has been prepared pursuant to an engagement letter between PSRS and PEERS of Missouri and PwC, and is intended solely for the use and benefits of PSRS and PEERS of Missouri and not for reliance by any other person.

Please call with any questions or if you require additional information.

Sincerely,

Cindy Fraterrigo

Cindy Fraterrigo, FSA, EA, MAAA

Brandon A. Robertson

Brandon Robertson, ASA, EA, MAAA

Public School Retirement System of Missouri — Exhibit I

Fiscal Impact of House Bill No. 1420

Increase Benefit Formula Multiplier to 2.55% For Members With 31 Years of Service

Cost Analysis as of June 30, 2015

	BASELINE - June 30, 2015 Valuation	HB 1420 - Change Benefit Formula Multiplier to 2.55% After 31 Years of Service [1]
Funded Status		
Present Value of Future Benefits ("PVFB"):		
Member Contribution Balances	$6,787,037,824	$6,787,037,824
Actives [2]	17,217,411,367	17,210,116,869
Inactives [3]	93,048,140	93,048,140
Retirees, Beneficiaries, and Disableds	24,674,170,165	24,674,170,165
Total PVFB	$48,771,667,496	$48,764,372,998
Change from BASELINE		($7,294,498)
Actuarial Accrued Liability ("AAL"):		
Member Contribution Balances	$6,787,037,824	$6,787,037,824
Actives [2]	9,056,283,487	8,978,047,789
Inactives [3]	93,048,140	93,048,140
Retirees, Beneficiaries, and Disableds	24,674,170,165	24,674,170,165
Total AAL	$40,610,539,616	$40,532,303,918
Change from BASELINE		($78,235,698)
Actuarial Value of Assets ("AVA")	34,073,415,230	34,073,415,230
Unfunded Actuarial Accrued Liability (AAL - AVA)	$6,537,124,386	$6,458,888,688
Funded Percentage (AVA / AAL)	**83.90%**	**84.06%**
Change from BASELINE		**0.16%**
Actuarially Determined Contribution Rate		
Anticipated Payroll	$4,508,241,581	$4,508,241,581
Normal Cost (Mid-Year):		
Amount	$842,548,463	$839,594,935
Percentage of Payroll	18.69%	18.62%
Change from BASELINE		(0.07%)
Unfunded Actuarial Accrued Liability (UAAL) Annual Amortizations (Mid-Year): [4]		
Amount	$424,734,170	$420,032,516
Percentage of Payroll	9.42%	9.32%
Change from BASELINE		(0.10%)
Actuarially Determined Contribution Rate:		
Percentage of Payroll	**28.11%**	**27.94%**
Change from BASELINE		**(0.17%)**

[1] Reflects a change in assumed retirement behavior to reflect a larger percentage of members working to 31 years of service and beyond to receive the higher benefit multiplier

[2] Includes 2,132 members who retired in July 2015.

[3] Includes 28 members who retired in July 2015.

[4] Reduction in AAL is amortized over 30 years in the development of the Actuarially Determined Contribution Rate.

Public School Retirement System of Missouri — Exhibit II

Fiscal Impact of House Bill No. 1420

Increase Benefit Formula Multiplier to 2.55% For Members With 31 Years of Service

A. Actuarial Assumptions

Unless stated otherwise, the actuarial assumptions and methods used in this analysis are the same assumptions and methods used in the June 30, 2015 actuarial valuation.

Inflation

2.50% per annum.

Payroll Growth

3.50% per annum, consisting of 2.50% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, and 0.50% of real wage growth.

Salary and Payroll Increases

Service	General Inflation	Health Care Inflation	Longevity	Total Increase
0	2.50%	0.50%	7.00%	10.00%
1 - 4	2.50%	0.50%	4.00%	7.00%
5	2.50%	0.50%	3.80%	6.80%
6	2.50%	0.50%	3.60%	6.60%
7	2.50%	0.50%	3.40%	6.40%
8	2.50%	0.50%	3.20%	6.20%
9	2.50%	0.50%	3.00%	6.00%
10	2.50%	0.50%	2.80%	5.80%
11	2.50%	0.50%	2.60%	5.60%
12	2.50%	0.50%	2.40%	5.40%
13	2.50%	0.50%	2.20%	5.20%
14	2.50%	0.50%	2.00%	5.00%
15	2.50%	0.50%	2.00%	5.00%
16	2.50%	0.50%	1.90%	4.90%
17	2.50%	0.50%	1.90%	4.90%
18	2.50%	0.50%	1.80%	4.80%
19	2.50%	0.50%	1.80%	4.80%
20	2.50%	0.50%	1.70%	4.70%
21	2.50%	0.50%	1.70%	4.70%
22	2.50%	0.50%	1.60%	4.60%
23	2.50%	0.50%	1.60%	4.60%
24	2.50%	0.50%	1.50%	4.50%
25	2.50%	0.50%	1.50%	4.50%
26	2.50%	0.50%	1.40%	4.40%
27	2.50%	0.50%	1.30%	4.30%
28	2.50%	0.50%	1.20%	4.20%
29	2.50%	0.50%	1.10%	4.10%
30+	2.50%	0.50%	1.00%	4.00%

Investment Return

8% per annum (net of investment and administrative expenses).

Cost of Living Adjustments

2.00% per year, based on the current policy of the Board to grant a 2.00% COLA whenever annual inflation, as measured by the CPI-U index for a fiscal year, increases between 0.00% and 5.00%.

A. Actuarial Assumptions (Continued)

Cost of Living Adjustments (Cont.)

The COLA assumption applies to service retirements and beneficiary annuities. The COLA does not apply to the benefits for in-service death payable to spouses (where the spouse is over age 60), and does not apply to the spouse with children pre-retirement death benefit, the dependent children pre-retirement death benefit, or the dependent parent death benefit. Members begin receiving COLAs on the second January after benefit commencement. The total lifetime COLA cannot exceed 80% of the original benefit. Future COLAs for current benefit recipients reflect actual cumulative adjustments granted at the time of valuation.

Mortality Rates

For actives, rates are based on the RP 2000 Mortality Table set back one year for males and six years for females, then projected to 2016 using Scale AA. Illustrative rates per 1,000 members at various ages are as follows:

Active Member Mortality

Age	Male	Female
20	0.244	0.131
30	0.380	0.171
40	0.898	0.171
50	1.492	0.782
60	4.593	2.237
70	15.549	7.955

For non-disabled retirees, beneficiaries, and survivors, rates are based on the RP 2000 Mortality Table, set back one year for both males and females, then projected to 2016 using Scale AA. Illustrative rates per 1,000 members at various ages are as follows:

Service Retiree, Beneficiary and Survivor Mortality

Age	Male	Female
40	0.898	0.509
50	1.492	1.178
60	4.593	4.099
70	15.549	13.715
80	49.322	37.094
90	156.083	113.562
100	324.963	227.712
110	400.000	351.544

For disabled retirees, rates are based on the RP 2000 Disabled Retiree Mortality Table. Illustrative rates per 1,000 members at various ages are as follows:

Disability Retiree Mortality

Age	Male	Female
40	22.571	7.450
50	28.975	11.535
60	42.042	21.839
70	62.583	37.635
80	109.372	72.312
90	183.408	140.049
100	344.556	237.467
110	400.000	364.617

A. Actuarial Assumptions (Continued)

Retirement Rates

Baseline: When the 2.55% benefit formula is not available, retirement is assumed in accordance with the following rates per 1,000 eligible members:

Age	Service ≤ = 20	21	22	23	24	25	26	27	28	29	30	≥ = 31
<= 50	0	0	0	0	0	50	50	50	50	50	450	450
51	0	0	0	0	0	50	50	50	50	200	450	450
52	0	0	0	0	0	50	50	50	200	200	450	450
53	0	0	0	0	0	50	50	300	200	200	450	450
54	0	0	0	0	0	50	300	200	200	200	450	450
55	50	50	50	50	50	400	200	200	200	200	450	450
56	50	50	50	50	400	200	200	200	200	200	450	450
57	50	50	50	400	200	200	200	200	200	200	450	450
58	50	50	400	200	200	200	200	200	200	200	450	450
59	50	400	200	200	200	200	200	200	200	200	450	450
60	150	150	150	150	150	200	200	200	200	200	450	450
61	150	150	150	150	150	200	200	200	200	200	450	450
62	150	150	150	150	150	200	200	200	200	200	450	450
63	150	150	150	150	150	200	200	200	200	200	450	450
64	150	150	150	150	150	200	200	200	200	200	450	450
65	250	250	250	250	250	400	400	400	400	400	450	450
66	250	250	250	250	250	300	300	300	300	300	450	450
67	250	250	250	250	250	300	300	300	300	300	450	450
68	250	250	250	250	250	300	300	300	300	300	450	450
69	250	250	250	250	250	300	300	300	300	300	450	450
>= 70	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Proposed Change: When the 2.55% benefit formula is available, retirement is assumed in accordance with the following rates per 1,000 eligible members:

Age	Service ≤ = 20	21	22	23	24	25	26	27	28	29	30	≥ = 31
<= 50	0	0	0	0	0	50	50	50	50	50	200	400
51	0	0	0	0	0	50	50	50	50	200	200	400
52	0	0	0	0	0	50	50	50	200	200	200	400
53	0	0	0	0	0	50	50	300	200	200	200	400
54	0	0	0	0	0	50	300	200	200	200	200	400
55	50	50	50	50	50	400	200	200	200	200	200	400
56	50	50	50	50	400	200	200	200	200	200	200	400
57	50	50	50	400	200	200	200	200	200	200	200	400
58	50	50	400	200	200	200	200	200	200	200	200	400
59	50	400	200	200	200	200	200	200	200	200	200	400
60	150	150	150	150	150	200	200	200	200	200	200	400
61	150	150	150	150	150	200	200	200	200	200	200	400
62	150	150	150	150	150	200	200	200	200	200	200	400
63	150	150	150	150	150	200	200	200	200	200	200	400
64	150	150	150	150	150	200	200	200	200	200	200	400
65	250	250	250	250	250	400	400	400	400	400	400	400
66	250	250	250	250	250	300	300	300	300	300	300	400
67	250	250	250	250	250	300	300	300	300	300	300	400
68	250	250	250	250	250	300	300	300	300	300	300	400
69	250	250	250	250	250	300	300	300	300	300	300	400
>= 70	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

A. Actuarial Assumptions (Continued)

Withdrawal Rates

Termination of membership prior to eligibility for retirement from all causes other than death, disability or retirement, whether resulting in a refund or a deferred benefit, is assumed in accordance with the following illustrative rates per 1,000 members:

Active Member Withdrawal

Years of Service	Rate
0	190
1	105
2	85
3	73
4	62
5	52
10	23
15	12
20	5
25+	0

Disability Rates

Retirement for disability prior to age 60 is assumed in accordance with the following illustrative rates per 1,000 eligible members:

Active Member Disability

Age	Rates
25	0.017
30	0.080
35	0.160
40	0.320
45	0.610
50	0.960
55	1.310

Refund of Contributions

It is assumed that 88% of those leaving after earning 5 years of service, but before retirement age, leave their contributions in the fund and receive a vested benefit. The remaining 12% are assumed to take an immediate refund of their contributions, thus forfeiting their vested retirement benefit. For the 88%, If the present value of the deferred benefit is less than the member account balance, the member's account balance is valued.

It is assumed that 100% of those leaving prior to earning 5 years of service will take an immediate refund of their contributions.

Interest on Member Accounts

1.00% per annum.

Service Purchases

A 2.00% load is added to the Normal Cost to account for anticipated losses resulting from service purchases and reinstatements.

A. Actuarial Assumptions (Continued)

Provisions for Expenses

There is no specific provision for expenses. The implicit assumption is that investment and administrative expenses are paid from investment income in excess of 8.00% per annum.

Dependent Assumptions

80% of male members and 70% of female members are assumed to be married.

Beneficiaries are assumed to be of the opposite sex from the member.

Male and Female members are assumed to be 4 years older than their beneficiary.

Survivor Benefits

All active members under age 50 are assumed to have 2 dependent children. Each child is assumed to receive payments of $860 per month for 18 years if the member is under age 32, and grading down to 0 years if the member is age 50.

Return of Unused Member Account Balance

Under the single life annuity payment option, any unused balance of contributions and interest in the member account balance at the time of death is paid in a lump sum to a designated beneficiary. This benefit is approximated with a 5-year certain benefit.

Form of Payment

For active members, benefits are assumed to be paid in the form of a single life annuity since all optional forms are actuarially equivalent using the same interest and mortality assumptions used in the valuation.

Data Assumptions

Members without a date of birth provided are assumed to be 30 years old. Pensionable pay for members who did not earn service during the past year is assumed to be the greater of the current year's salary, the previous year's salary and $10,000. Pensionable pay for other active members is assumed to be the greater of annualized pay and $10,000.

Social Security Coverage

It is assumed that members who are currently employed in positions covered by Social Security will continue to be employed in Social Security covered positions for the remainder of their PSRS tenure. All others are assumed to immediately switch to a position that is not covered by Social Security and receive full PSRS membership credit for future service.

B. Actuarial Methods

Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The Normal Cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The Actuarial Accrued Liability on any valuation date is the accumulated value of such Normal Costs from entry age to the valuation date.

Asset Valuation Method

The Actuarial Value of Assets is a smoothed value of assets. The actuarial value at June 30 of the prior year is

Amortization of Unfunded Actuarial Accrued Liability

Gains and losses occurring from census experience different than assumed and assumption changes are amortized over a 30-year period as a level percent of payroll. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 30-year period. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Increases in the Actuarial Accrued Liability caused by changes in the benefit provisions are amortized over 20 years, as determined in the 2007 session of the Legislature.

A. Plan Provisions (Used in Baseline)

Member Contributions

Half the total PSRS contribution rate. For fiscal year 2015, the total PSRS contribution rate is 29.00%.

Normal (Unreduced) Retirement

Eligibility	Attainment of age 60 with at least five years of Creditable Service, or Completion of 30 years of Creditable Service at any age, or Age plus Creditable Service is at least 80.
Benefit	2.50% of Final Average Salary for each year of Membership Service. A minimum benefit applies for Members with at least 15 years of Creditable Service and varies from $600/month at 15 years of Creditable Service to $1,200/month at 30 years of Creditable Service. Benefits are also subject to a maximum equal to 100% of the Member's Final Average Salary at the time of retirement.
Compensation	All regular earnings as an employee of a PSRS-covered employer. Compensation or salary includes, but is not limited to, payments for extra duties, overtime payments, career ladder payments, payments for overloads (e.g. extra hours taught) and additional courses, and employer-paid medical, dental and vision insurance premiums for the member.
Final Average Salary	Average monthly salary over the Member's three highest consecutive years of service. Effective August 28, 2007, the maximum increase in the annual compensation used for the final average salary shall not exceed ten percent.
Membership Service	Service while a participating member of PSRS. Service is measured each year in relation to full contract salary for that year. Members employed in position that are covered by Social Security receives two-thirds for each year of Membership Service earned in those positions.
Prior Service	Service in a covered position prior to July 1, 1946. A year of Prior Service is the equivalent of 0.6 years of Membership Service.
Creditable Service	Membership Service plus any service rendered prior to PSRS inception.
Normal Form of Benefit	Single Life Annuity Options available include joint and survivor (50%, 75%, or 100%), term certain (60 or 120 months) and life thereafter, and partial lump sum option (PLSO).

Early (Age Reduced) Retirement

Eligibility	Attainment of age 55 and under age 60 with at least five years of creditable service.
Benefit	Normal retirement benefit accrued to the date of early retirement, actuarially reduced from age 60.

Special Early Retirement Under Modified Formula

Eligibility	Retirement at an age under 55 and with at least 25 years of creditable service but not eligible for the Rule of 80.
Benefit	Based on a percentage of final average salary per year of creditable service. Percentages are as follows:

Years of Service	Benefit Percentage
25-25.9	2.20%
26-26.9	2.25%
27-27.9	2.30%
28-28.9	2.35%
29-29.9	2.40%

Post-Retirement Death Benefit	Regardless of the form of benefit selected, a lump sum benefit of $5,000 is paid at the death of the retiree.

A. Plan Provisions (Used in Baseline) (Continued)

COLA Adjustments

The Board has established a policy of providing a 2.00% COLA for years in which the CPI increases between 0.00% and 5.00%. If the CPI increase is greater than 5.00%, the Board will provide a COLA of 5.00%. If the CPI decreases, no COLA is provided.

For any member retiring on or after July 1, 2001, such adjustments commence in the second January after commencement of benefits. The total of such increases may not exceed 80% of the original benefit for any member.

Disability Benefits

Definition of Disability	Incapacity for performance of gainful employment after completion of five years of creditable service and before age 60.
Benefit	Lifetime benefit equal to 90% of accrued normal retirement benefit. This benefit level is subject to a minimum of 50% salary in the last full year of membership but not greater than the member's accrued normal retirement benefit assuming continuous employment to age 60 at current pay. COLA adjustments similar to those provided to retirees are provided on this benefit.
Form of Benefit	If eligible, surviving designated spouse or dependent child or parent may elect a monthly survivor benefit.

Vesting

Eligibility	Accrual of five years of creditable service.
Benefit	Accrued normal retirement benefit payable at earliest retirement age based on service at date of termination. Benefit is based on formula in effect at commencement of benefit.

Death/Survivor Benefits

Refund — Refund of accumulated member contributions with interest.

Dependent-Based Survivor Benefits — In lieu of the refund, survivors of a member with at least 2 years of service at death may elect the following survivor benefit package:

1. Spouse who was married to the deceased member for at least three years and with no dependent children - up to $860 per month payable after spouse age 60 (immediately if spouse is disabled) and prior to remarriage.
2. Spouse with dependent children
   a. Up to $860 per month payable to spouse with at least one dependent child under age 18.
   b. Up to an additional $430 per month payable for each child under age 18. Benefits continue to the spouse after the child reaches age 18, up to age 24, if the child is a full-time student.
   c. Family maximum - $2,160 per month.
3. If no surviving spouse, each eligible child receives up to $720 per month payable as in 2.b. above, subject to a family maximum of $2,160.
4. If no surviving spouse or children, a benefit of up to $720 per month is payable to a dependent parent over age 65, subject to a maximum of $1,440.

No COLA adjustments apply to this benefit.

A. Plan Provisions (Used in Baseline) (Continued)

Death/Survivor Benefits (continued)

Retirement-Based Survivor Benefits

In lieu of the benefits described above, if the member has at least 5 years of membership service at date of death, the designated spouse may receive a survivor benefit based on 100% J&S equivalent of the benefit accrued to date of death. The benefit may commence:

1. immediately if member is eligible to retire at date of death, or
2. at a future retirement date of the deceased member.

The benefit may be reduced for early commencement if the deceased member would not have been eligible for unreduced retirement ate that date based on service to date of death.

COLA adjustments similar to those provided to retirees are provided on these benefits.

B. Plan Provisions (Changes from Baseline)

Normal (Unreduced) Retirement

Benefit

2.50% of Final Average Salary for each year of Membership Service. A minimum benefit applies for Members with at least 15 years of Creditable Service and varies from $600/month at 15 years of Creditable Service to $1,200/month at 30 years of Creditable Service. Benefits are also subject to a maximum equal to 100% of the Member's Final Average Salary at the time of retirement.

Members retiring after July 1, 2015 with at least 31 years of service will receive a benefit based on a 2.55% formula factor.

Disclosures

This letter has been prepared pursuant to the engagement letter between PricewaterhouseCoopers LLP and PSRS and PEERS of Missouri, dated June 9, 2014, and amended April 16, 2015.

In preparing the results presented in this letter, we have relied upon information provided to us by PSRS and PEERS of Missouri regarding plan provisions, plan participants, and benefit payments. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness. The accuracy of the results presented in this letter is dependent upon the accuracy and completeness of the underlying information.

The results of our analysis presented herein were computed using assumptions and methods that are consistent with the funding policy adopted by the Board of Trustees of PSRS and PEERS of Missouri. The results do not reflect application of Governmental Accounting Standards applicable to pension plans.

To the best of our knowledge, the individuals involved in this engagement have no relationship that may impair or appear to impair the objectivity of our work.

No statement in this letter is intended as a recommendation in favor, or in opposition, of the proposed legislation. Except as otherwise noted, potential impacts on other benefit plans were not considered.

The calculations are based upon assumptions regarding future events. However, the plan's long term costs will be determined by actual future events, which may differ materially from the assumptions that were made. The calculations are also based upon present and proposed plan provisions that are outlined in the letter. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, please contact the author of this letter prior to relying on information in the letter.

If you have reason to believe that the information provided in this letter is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this letter, please contact the author of this letter prior to making such decision.

In the event that more than one plan change is being considered, it should be noted that the results of separate actuarial valuations cannot generally be added together to produce a correct estimate of the combined effect of all of the changes. The total can be considerably greater or less than the sum of the parts due to the interaction of various plan provisions with each other, and with the assumptions that must be used.

The content of this document is limited to the matters specifically addressed herein and does not address any other potential tax consequences, or the potential application of tax penalties, to any matter other than as set forth herein. Our conclusions are not binding upon any taxing authority or the courts and there is no assurance that any relevant taxing authority will not successfully assert a contrary position. In addition, no exceptions (including the reasonable cause exception) are available for any federal or state penalties imposed if any portion of a transaction is determined to lack economic substance or fails to satisfy any similar rule of law, and our advice will not protect you from any such penalties. This document supersedes all prior written or oral advice with respect to the issues addressed in this document and all such prior communications should not be relied upon by any person for any purpose. This document has been prepared pursuant to an engagement letter between PSRS and PEERS of Missouri and PwC, and is intended solely for the use and benefits of PSRS and PEERS of Missouri and not for reliance by any other person.