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March 8, 2017

Mr. George Hopkins
Executive Director
Arkansas Teacher Retirement System
1400 West Third Street
Little Rock, Arkansas 72201

Re: Senate Bill 141 of 2017

Dear Mr. Hopkins:

You have asked us for an analysis of Senate Bill (SB) 141 as it relates to the Arkansas Teacher Retirement System (ATRS). SB 141 modifies Arkansas State Code Section 24-7-736 concerning the calculation of final average salaries under the ATRS.

Current language in Arkansas Code §24-7-736(c)(3) provides a limitation of 120% on the increase in pay from one year to the next that can be counted as part of the final average salary calculation. The lowest pay is defined to be the actual pay for the lowest paid year that is within the final average calculation period and is called the "base". The next lowest pay is limited to 120% of the base pay, and becomes the new base pay for successive steps in the calculation. The 120% limit can only be exceeded if the dollar amount of the increase is less than $5,000 above the base. The purpose of the 120% limit is to lessen the effect of extraordinary pay increases during the last few years of employment on the benefit to be paid. The purpose of the $5,000 "safe harbor" increase is to limit the operation of §24-7-736(c)(3) on lower income people. Large pay increases within the last few years of employment generate losses for ATRS because the pay increase affects the benefit calculation for all years of service, whereas contributions on the higher pay are only received for the last couple years of service. This situation is sometime referred to as "spiking". Chart 1 shows an example of the calculation of three year final average salary for a low income and for a high income person under present statutory wording. The pays in the final average salary calculation are first ranked from lowest to highest and the 120% test is applied to each pay in order.

Chart 1
Present Statutory Wording: 120%/$5,000
Development of 3-year Final Average Salary

	Low Paid Person		High Paid Person	
	Actual Pay	**Used Pay**	**Actual Pay**	**Used Pay**
Lowest	$15,000	$15,000	$80,000	$80,000
Next lowest	$21,000	$20,000	$120,000	$96,000
Highest	$26,000	$25,000	$150,000	$115,200
Total	$62,000	$60,000	$350,000	$291,200
Final Average Salary	$20,667	**$20,000**	$116,667	**$97,067**
Used as % of Actual		97%		83%

The final average salary considering the 120% limit (2nd column-used pay) is the final average salary that is actually used in the computation of retirement benefits. Because a $5,000 increase in annual pay can always be counted regardless of whether or not it exceeds a 20% increase over the prior year, the formula tends to be less restrictive for lower paid people than for higher paid people as Chart 1 suggests.

SB 141 gives the ATRS Board the authority to modify the calculation by changing the 120% factor to a value in the range of 105% to 120%. It also provides authority to change the $5,000 figure to a value in the range of $1,250 to $5,000. Since this legislation is permissive, and there is a range of options to the Board for the selection of a limit on the increases, we cannot provide a precise illustration of how the bill will impact final average pay. Chart 2 shows how the calculation would work if the ATRS Board exercised the proposed statutory authority to change the 120% limit to 110% and left the $5,000 limit unchanged.

Chart 2
Alternate Application: 110%/$5000
Development of 3-year Final Average Salary

	Low Paid Person		High Paid Person	
	Actual Pay	**Used Pay**	**Actual Pay**	**Used Pay**
Lowest	$15,000	$15,000	$80,000	$80,000
Next lowest	$21,000	$20,000	$120,000	$88,000
Highest	$26,000	$25,000	$150,000	$96,800
Total	$62,000	$60,000	$350,000	$264,800
Final Average Salary	$20,667	**$20,000**	$116,667	**$88,267**
Used as % of Actual		97%		76%

Senate Bill 141 provides flexibility to the ATRS Board, allowing it to take action beyond that provided by current §24-7-736(c)(3) to reduce losses that occur due to large increases in pay shortly before retirement. Consequently it will provide a saving to ATRS if final average pay is further limited. Since large increases in pay near retirement are not anticipated in the valuation, the potential saving due to this bill is not subject to direct actuarial measurement. If, however, spiking added 0.25% on average to final average salaries under present statutory wording, and the ATRS Board could completely eliminate it by exercising the authority provided by Senate Bill 141, the effect of the bill would be to prevent future losses that have a value of approximately 6 amortization months. The effect would not actually be seen directly in the actuarial valuations because it is dealing with behavior that is not anticipated by the assumptions.

Please review this letter carefully to ensure that we have understood the bill properly. The analysis in this letter should not be relied upon if there is doubt about our understanding of the bill. Our analysis relates only to the plan changes described in this correspondence. In the event that other plan changes are being considered, it is very important to remember that the results of separate actuarial analyses cannot generally be added together to produce a total. The total can be considerably greater 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.

We did not review this bill for compliance with Federal, State, or local laws or regulations, and internal revenue code provisions nor did we attempt to determine whether these changes would contradict or negate other related State, or local laws or legislation currently under consideration. Such a review was not within the scope of our assignment.

Brian B. Murphy, Judith A. Kermans and Heidi G. Barry are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Judith A. Kermans

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Brian B. Murphy

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