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March 6, 2013

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

Re: Senate Bill 162 –Employer Contribution Rate

Dear Mr. Hopkins:

You have asked us for our analysis of Senate Bill (SB) 162 as it relates to the Arkansas Teacher Retirement System (ATRS).

SB 162 amends Arkansas Code 24-7-401(c)-(e) concerning contributions to provide that beginning July 1, 2013:

1. The employer contribution rate shall not exceed 15% of payroll.
2. The board may modify the employer contribution rate for a given fiscal year above 14% only if the annual report from the System's actuary for the previous year indicates that with a 14% contribution rate the System's amortization period would exceed 30 years.
3. If a report provided by the System's actuary shows that the System's amortization period would be 30 years or less with a 14% contribution rate, the employer contribution rate shall not exceed 14% of payroll.
4. Public school employers pay the first 14% of the contribution rate. The Department of Education pays the remainder that is needed to equal the contribution rate in effect during the fiscal year.
5. An increase or a decrease in the employer contribution rate must apply to a complete fiscal year and remains in effect until and unless modified by the Board.

We interpret this bill to mean the following. If the June 30, 2013 valuation, which would be completed in late fall of 2013, were to show an amortization period above 30 years based upon a 14% employer contribution rate, the Board could then act to increase the contribution rate for Fiscal Year 2015 (beginning July 1, 2014) up to an amount that would produce a 30 year amortization period but not beyond 15% of payroll. If the contribution rate in effect for Fiscal Year 2015 exceeds 14% of payroll, any amounts over 14% of payroll would be paid by the Department of Education. The contribution rate would remain at the increased level until the Board acted to change it. If a report from the actuary showed that an amortization period below 30 years could be achieved with a contribution rate of 14% of payroll, the maximum employer contribution rate would return to 14% of payroll.

We have done a study (attached) of a 1% *permanent* increase in the employer contribution rate. A 1% of pay increase in the employer contribution rate would reduce the amortization period from the present level of over 100 years to just below 50 years.

SB 162 is financially favorable for ATRS because it provides the ATRS Board the flexibility to require increased contributions from the Department of Education. The passing of SB 162 will help ATRS meet its funding objectives.

We hope this analysis meets your needs.

Please review this letter carefully to ensure that we have understood the bill properly and that the assumptions we have made are realistic. The analysis in this letter should not be relied upon if there is doubt about our understanding of the bill or the assumptions we have made. 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. Such a review was not within the scope of our assignment.

The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this communication (or any attachment) concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

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

Sincerely,

Judith A. Kermans

Judith A. Kermans, EA, MAAA, FCA

Brian B. Murphy

Brian B. Murphy, FSA, EA, MAAA, FCA

ARKANSAS TEACHER RETIREMENT SYSTEM
SUPPLEMENTAL ACTUARIAL VALUATION AS OF JUNE 30, 2012
SENATE BILL 162

Requested By:	Mr. George Hopkins, Executive Director
Date:	March 6, 2013
Submitted By:	Brian B. Murphy, FSA, EA, MAAA, FCA and Judith A. Kermans, EA, MAAA, FCA, Actuaries Gabriel, Roeder, Smith & Company

This report contains actuarial valuations of proposed changes in benefits for members of the Arkansas Teacher Retirement System. The actuaries issuing this report are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The supplemental valuations were based on the census data and actuarial methods and assumptions used in the June 30, 2012 actuarial valuation. The results of the supplemental valuations indicate what the June 30, 2012 valuation would have shown if the proposed benefit changes had been in effect on that date. Supplemental valuations do not predict the result of future actuarial valuations. (Future activities can affect future valuation results in an unpredictable manner.) Rather, supplemental valuations give an indication of the probable effect of **only the benefit changes** on future valuations without comment on the complete end result of the future valuations.

These calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based upon present and proposed plan provisions that are outlined in the valuation report. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important and relevant plan provisions are not described, or that conditions have changed since the calculations were made, you should contact the authors of this report prior to relying on information in the report.

If you have reason to believe that the information provided in this report 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 report, please contact the authors of the report prior to making such decision. Also, in the event that more than one plan change is being considered, it is very important to remember that the results of separate actuarial valuations 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.

This report is intended to describe the financial effect of the proposed plan changes on the Retirement System. Except as otherwise noted, potential effects on others benefit plans were not considered. No statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them.

A review of the proposed provisions for compliance with Federal, State or local laws or regulations, specifically IRC §415 and rules related to the diminishment of benefits, was outside the scope of this assignment.

Actuarial assumptions and methods were consistent with those used in the regular actuarial valuation of the Retirement System on the valuation date, unless otherwise noted. Actuarial assumptions are adopted by the Retirement Board of Trustees. The assumptions used for this valuation include:

- An assumed rate of investment return of 8.0%.
- An entry-age normal cost valuation method.
- For purposes of amortizing unfunded accrued liabilities, payroll was assumed to increase 3.25% per year.

The amortization period as of the June 30, 2012 valuation is over 100 years, based upon a 14% employer contribution rate.

A brief summary of the data, as of June 30, 2012, used in this valuation is presented below.

	Active Members				Retired Members	
			Average in Years			Annual
Group	Number	Covered Payroll	Age	Service	Number	Benefits
Education	34,591	$ 1,672,475,831	43.2	12.3		
Support	36,604	773,904,943	46.7	8.0		
Total	71,195	$ 2,446,380,774	45.0	10.1	34,160	$709,171,554

	T-DROP Members			Deferred Vested Members	
Group	Number	Account Balance	Covered Payroll	Number	Estimated Annual Benefits
Total	4,432	$510,753,765	$267,948,212	12,654	$59,203,653

ARKANSAS TEACHER RETIREMENT SYSTEM
SUPPLEMENTAL ACTUARIAL VALUATION AS OF JUNE 30, 2012
SENATE BILL 162

CURRENT:

Employer Contributions.
Employer contributions are collected at a rate of 14% of payroll on active members, T-DROP participants (even those who work beyond the 10-year participation period), and working retirees (Act 743 of 2009).

PROPOSED:

Employer Contributions.
For the fiscal year ending June 30, 2013, the employer contribution rate shall not exceed 14% of payroll. Beginning July 1, 2013, and each fiscal year thereafter, the Board may modify the employer contribution rate for the next fiscal year above 14% payroll to a maximum of 15% of payroll, only if the annual report from the System's actuary provided for the previous fiscal year establishes that the System has a greater than thirty-year amortization period to pay unfunded liabilities without an employer contribution rate of more than 14%. Employer contributions are collected on active members, T-DROP participants (even those who work beyond the 10-year participation period), and working retirees (Act 743 of 2009). Amounts above 14% of payroll will be paid by the Board of Education. **We have modeled this by assuming a 15% contribution rate in all future years.**

Actuarial Statement

The financial effect of the proposal is shown below:

		$ Millions		
	Valuation Date June 30, 2012	Valuation Results	Proposal Results	Effect
1)	Accrued Liabilities	$16,139.4	$16,139.4	
2)	Funding Value of Assets	11,483.9	11,483.9	
3)	UAAL $: (1) - (2)	$ 4,655.5	$ 4,655.5	$ -
4)	- % Funded: (2) / (1)	71%	71%	
5)	Member Contribution Rate	4.80%	4.80%	
6)	Employer Contribution Rate	14.00%	15.00%	
7)	Normal Cost	6.93%	6.93%	
8)	UAAL %: (6) - (7)	7.07%	8.07%	
9)	Amortization Years	**Over 100**	**49.49**	

COMMENT

The actuarial calculations are based on the June 30, 2012 actuarial valuation. Please remember that these changes, if adopted, would likely impact the June 30, 2013 valuation. That valuation will be completed in the fall of 2013 and will be based on member data and financial results as of June 30, 2013, neither of which is available to us at this time.