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December 13, 2013

Mr. Mark Whelan
Chief Financial Officer
Teachers Retirement System of Kentucky
479 Versailles Road
Frankfort, KY 40601-3800

IMPACT OF NEW GASB STANDARDS – BASED ON JUNE 30, 2013 VALUATION

Dear Mark:

As requested, we have prepared the accounting information that will be required for KTRS under the newly released Statement No. 67, Financial Reporting for Pension Plans, based on our understanding of the Statement. For KTRS, which is a cost sharing multiple employer plan, all information is reported for the Plan in total. The effective date for Statement 67 is for fiscal years beginning after June 30, 2013, so the first financial statements that would actually reflect the new standards for KTRS would be those prepared for fiscal year ending June 30, 2014.

GASB 67 requires new disclosure information for the Notes to the Plan's Financial Statements and for the Required Supplementary Information. The new statement requires calculation of the Total Pension Liability (TPL) and the Net Pension Liability (NPL). The TPL is the actuarial accrued liability based on certain parameters, and the NPL is the TPL less the market value of assets (referred to in the Statements as the Plan Fiduciary Net Position).

In determining the TPL, the actuary must project assets and expected benefit payments for current active and inactive members to determine if the plan's assets will be sufficient to pay all benefits. In determining the future employer contributions to be used in the projection of the assets, the actuary must use professional judgment if: (a) the contributions are established by statute or contract or (b) a formal, written policy exists. It is our recommendation that the Board of Trustees adopt a formal written funding policy. However, in the absence of such a policy, it is our opinion that the conditions under (a) are met, therefore the actuary may use profession judgment to determine the expected future employer contributions.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC

If assets are determined to be sufficient to pay expected benefits, the discount rate used to determine the TPL is the expected long-term rate of return on pension plan investments (currently 7.68% for 25 years and 7.50% thereafter, based on valuation interest smoothing methodology). If the assets are not expected to be sufficient, the discount rate is determined as a single rate that reflects the long-term expected rate of return for the period of time that assets are sufficient, and the index rate for 20-year, tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher (estimated to be 4.32% as of June 30, 2013) for the period thereafter.

We have prepared the disclosures based on two different scenarios. In the first scenario, since the annual required employer contributions determined by actuarial valuations have not been made, we have assumed that the statutory employer rates currently in effect will remain in effect for all years in the future. On this basis, assets would be expected to be depleted in 2037 and we estimated that the single equivalent discount rate to be used to determine the TPL is 5.32%. This reflects the smoothed interest rate as the expected return until the assets are depleted and a 4.32% expected rate of return thereafter.

In the second scenario, we have assumed the employer's annual required contributions will be made through either increases in the contributions or pension obligation bonds. On this basis, assets would be sufficient to pay expected benefit payments and the discount rate used to determine the TPL is the expected long-term rate of return on pension plan investments (currently 7.68% for 25 years and 7.50% thereafter, based on valuation interest smoothing methodology).

The results are based on the June 30, 2013 valuations as though the GASB standards were in effect on those dates.

The following Exhibits are attached to this letter:

I. Notes to the Financial Statements

II. Schedules of Required Supplementary Information. The liability numbers shown in the schedules have been prepared based on the two scenarios:

   a. Discount rate determined using a 5.09% interest rate at the beginning of the year and 5.32% at the end of year; and

   b. Long-term rate of return on pension plan investments.

The disclosure information required under GASB Statement No. 68, Accounting and Financial Reporting for Pensions will apply to employers and non-employer contributing entities with an effective date for fiscal years beginning after June 30, 2014. A proportionate share of the NPL, as well as an annual pension expense will need to be disclosed on the financial statements of each employer or contributing entity of cost sharing plans such as KTRS. In addition, there are multiple Note disclosures and Required Supplementary Information requirements for the employers under GASB 68. We have not enclosed any exhibits related to this statement. We plan to prepare disclosures for sample employers, including the State of Kentucky, since they are the largest contributing entity, which will be sent under separate cover.

If you have any questions, please give us a call.

Sincerely,

Edward J. Koebel

Cathy Turcot

Edward J. Koebel EA, FCA, MAAA
Principal and Consulting Actuary

Cathy Turcot
Principal and Managing Director

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EXHIBIT I
TEACHER'S RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

Notes to the Financial Statements
For the Year Ended June 30, 2013
(Dollar amounts in thousands)

Net Pension Liability of Participating Employers and Non-Employer Contributing Entities

The components of the net pension liability of the employers and non-employer contributing entities at June 30, 2013 were determined based on two different scenarios.

The components, **assuming that employer contributions continue at current levels,** were as follows:

Total pension liability	$ 38,014,440
Plan fiduciary net position	(16,108,808)
Net pension liability	$ 21,905,632
Plan fiduciary net position as a percentage of the total pension liability	42.38%

Actuarial assumptions. The total pension liability on this basis was determined by an actuarial valuation as of June 30, 2013, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	4.00 percent
Salary increases	4.00-8.20 percent, including inflation
Long-term expected investment rate of return	7.68 percent for 25 years and 7.50 percent thereafter, net of pension plan investment expense, including inflation
Municipal Bond Rate	4.32 percent
Discount Rate	5.32 percent

The components, **assuming that all annual required employer contributions will be made,** were as follows:

Total pension liability	$ 28,817,232
Plan fiduciary net position	(16,108,808)
Net pension liability	$ 12,708,424
Plan fiduciary net position as a percentage of the total pension liability	55.90%

EXHIBIT I
TEACHER'S RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

Actuarial assumptions. The total pension liability on this basis was determined by an actuarial valuation as of June 30, 2013, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	4.00 percent
Salary increases	4.00-8.20 percent, including inflation
Long-term expected investment rate of return	7.68 percent for 25 years and 7.50 percent thereafter, net of pension plan investment expense, including inflation

Other assumptions. Mortality rates were based on the RP-2000 Combined Mortality Table for Males or Females, as appropriate, set back one year for females, with adjustments for mortality improvements based on Scale AA projected to 2020.

The actuarial assumptions used in the June 30, 2013 valuation were based on the results of an actuarial experience study for the period July 1, 2005 - June 30, 2010.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2013 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Long-Term Expected Nominal Rate of Return (Includes 4% Inflation)
Fixed income	1.6%	5.6%
US Equity	6.4	10.4
Non US Equity	6.5	10.5
High Yield Bonds	3.1	7.1
Alternatives	6.8	10.8
Real estate	5.8	9.8
Cash	1.5	5.5

EXHIBIT I

TEACHER'S RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

Municipal Bond Rate. The municipal bond rate was based on the S&P Municipal Bond 20 Year High Grade Rate Index published for the week of June 30, 2013.

Discount rate. The discount rate used to measure the total pension liability on the first basis was 5.32 percent. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current statutory contribution rates and that contributions from employers and non-employer contributing entities will be made at the current statutory contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make projected future benefit payments of current plan members through June 30, 2037. The long-term expected rate of return on pension plan investments was applied to periods of projected benefit payments through this date and the municipal bond rate was used for the period thereafter to determine the total pension liability. The discount rate used to measure the total pension liability on the second basis was 7.68 percent for 25 years and 7.5 percent thereafter. This is equivalent to an average assumed rate of return of approximately 7.66 percent.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the employers calculated using the discount rate of 5.32 percent, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (4.32 percent) or 1 percentage point higher (6.32 percent) than the current rate:

	1% Decrease (4.32%)	Current Discount Rate (5.32%)	1% Increase (6.32%)
Employers' net pension liability	$ 27,227,191	$ 21,905,632	$ 17,513,811

The following presents the net pension liability of the employers calculated using the discount rate of 7.66 percent, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.66 percent) or 1 percentage point higher (8.66 percent) than the current rate:

	1% Decrease (6.66%)	Current Discount Rate (7.66%)	1% Increase (8.66%)
Employers' net pension liability	$ 16,197,051	$ 12,708,424	$9,872,575

EXHIBIT II
Schedules of Required Supplementary Information

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY
Teacher's Retirement System of the State of Kentucky
Based on 5.32% Discount Rate

Last 10 Fiscal Years
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total pension liability										
Service Cost	1,020,475									
Interest	1,893,339									
Benefit changes	0									
Difference between expected and actual experience	(166,584)									
Changes of assumptions	(1,133,629)									
Benefit payments	(1,570,723)									
Refunds of contributions	(22,059)									
Net change in total pension liability	20,819									
Total pension liability - beginning	37,993,621									
Total pension liability - ending (a)	38,014,440									
Plan fiduciary net position										
Contributions - employer	568,233									
Contributions - member	304,739									
Net investment income	2,039,874									
Benefit payments	(1,570,723)									
Administrative expense	(8,377)									
Refunds of contirbutions	(22,059)									
Other	0									
Net change in plan fiduciary net position	1,311,687									
Plan fiducuary net position - beginning	14,797,121									
Plan fiducuary net position - ending (b)	16,108,808									
Employers' net pension liability - ending (a) - (b)	21,905,632									

Notes to Schedule:

EXHIBIT II

Schedules of Required Supplementary Information

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY
Teacher's Retirement System of the State of Kentucky
Based on Valuation Interest Smoothing

Last 10 Fiscal Years
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total pension liability										
Service Cost	539,779									
Interest	2,086,344									
Benefit changes	0									
Difference between expected and actual experience	(110,704)									
Changes of assumptions	920,741									
Benefit payments	(1,570,723)									
Refunds of contributions	(22,059)									
Net change in total pension liability	1,843,378									
Total pension liability - beginning	26,973,854									
Total pension liability - ending (a)	28,817,232									
Plan fiduciary net position										
Contributions - employer	568,233									
Contributions - member	304,739									
Net investment income	2,039,874									
Benefit payments	(1,570,723)									
Administrative expense	(8,377)									
Refunds of contirbutions	(22,059)									
Other	0									
Net change in plan fiduciary net position	1,311,687									
Plan fiducuary net position - beginning	14,797,121									
Plan fiduciary net position - ending (b)	16,108,808									
Employers' net pension liability - ending (a) - (b)	12,708,424									

Notes to Schedule:

EXHIBIT II
Schedules of Required Supplementary Information

SCHEDULE OF THE EMPLOYERS' NET PENSION LIABILITY
Teacher's Retirement System of the State of Kentucky
Based on 5.32% Discount Rate

Last 10 Fiscal Years
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total pension liability	38,014,440									
Plan fiduciary net position	16,108,808									
Employers' net pension liability (asset)	21,905,632									
Plan fiducuary net position as a percentage of the total pension liability	42.38%									
Covered-employee payroll	3,480,066									
Employers' net pension liability (asset) as a percentage of covered-employee payroll	629.46%									

EXHIBIT II
Schedules of Required Supplementary Information

SCHEDULE OF THE EMPLOYERS' NET PENSION LIABILITY
Teacher's Retirement System of the State of Kentucky
Based on Valuation Interest Smoothing

Last 10 Fiscal Years
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Total pension liability	28,817,232									
Plan fiduciary net position	16,108,808									
Employers' net pension liability (asset)	12,708,424									
Plan fiducuary net position as a percentage of the total pension liability	55.90%									
Covered-employee payroll	3,480,066									
Employers' net pension liability (asset) as a percentage of covered-employee payroll	365.18%									

EXHIBIT II
Schedules of Required Supplementary Information

SCHEDULE OF EMPLOYER CONTRIBUTIONS
Teacher's Retirement System of the State of Kentucky

Last 10 Fiscal Years
(Dollar amounts in thousands)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Covered-employee payroll	3,480,066	3,479,567	3,451,756	3,321,614	3,253,077	3,190,332	2,975,289	2,859,477	2,703,430	2,641,533
Actual employer contributions	568,233	557,340	1,037,936	479,805	442,550	466,248	434,890	406,107	383,777	364,351
Actuarially determined employer contribution	802,985	757,822	678,741	633,938	600,283	563,789	494,565	406,107	383,777	364,351
Annual contribution excess (deficiency)	(234,752)	(200,482)	359,195	(154,133)	(157,733)	(97,541)	(59,675)	0	0	0
Actual employer contributions as a percentage of covered-employee payroll	16.33%	16.02%	30.07%	14.44%	13.60%	14.61%	14.62%	14.20%	14.20%	13.79%

EXHIBIT II
TEACHER'S RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

Notes to Required Supplementary Information
For the Year Ended June 30, 2013

Methods and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates in the schedule of employers' contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent actuarially determined contribution reported in that schedule:

Actuarial Cost Method	Projected Unit Credit
Amortization method	Level percentage of payroll, open
Remaining amortization period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	4.00 percent
Salary Increases	4.00-8.20 percent including inflation
Investment rate of return	7.50 percent net of pension plan investment expense, including inflation