



TO: Members of the Legislative Commission on Pensions and Retirement
FROM: Lawrence A. Martin, Executive Director *LAM*
RE: H.F. 2168 (Lanning); S.F. 2010 (Rosen): 8.0% Select and 8.5% Ultimate Interest Rate, Salary Scale, and Payroll Growth Actuarial Assumption Revisions
DATE: February 9, 2012

Summary of H.F. 2168 (Lanning); S.F. 2010 (Rosen)

H.F. 2168 (Lanning); S.F. 2010 (Rosen) makes the following changes in the actuarial assumptions and related retirement plan provisions:

1. Shift to Select-and-Ultimate Interest Rate Actuarial Assumption. The current undifferentiated pre-retirement interest rate assumption of 8.5% annually is replaced by a select-and-ultimate pre-retirement interest rate assumption for all statewide and major local Minnesota public retirement plans, with the pre-retirement select interest rate assumption set at 8.0% annually for the period July 1, 2012, to June 30, 2021, and with the pre-retirement ultimate interest rate assumption for the period beginning July 1, 2021, set at 8.5% annually.
2. Downsizing of Some Salary Scale Actuarial Assumptions. The current service based salary scale actuarial assumptions for the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), the General Employees Retirement Plan of the Public Employees Retirement Association (PERA-General), the Teachers Retirement Association (TRA), and the Public Employees Police and Fire Retirement Plan (PERA-P&F) were downsized in a general range of 0.75% to 1% consistent with the inflation assumption component suggested by Minnesota State Economist Tom Stinson.
3. Downsizing of Payroll Growth Actuarial Assumption. The current payroll growth actuarial assumption, used for calculating the level percentage of an increasing payroll amortization contribution, for all statewide and major local Minnesota public employee retirement plans except the Elective State Officers Retirement Plan, are downsized to 3.25%, consistent with the inflation assumption revision suggested by Minnesota State Economist Tom Stinson.
4. Compatible Change in Interest Rates on Repayments of Refunds, Equivalent Contribution Leave Payments, Prior Service Credit Purchases, and Unpaid or Omitted Deductions and Contributions. For the period during which the lower select interest rate assumption will be in effect, the same lower interest rate is utilized on refund repayments, on payments of equivalent contributions for leaves, for purchases of prior service credit, and on unpaid or omitted deductions or contributions.
5. Mandated Retirement Plan Revisions in Annuity Reserve Factors, Optional Annuity Forms, and Actuarial Equivalent Early Retirement Reduction Factors. By January 2013, all retirement plans affected by the interest rate actuarial assumption change are required to revise their annuity reserve factors, optional annuity forms and actuarial equivalent early retirement reduction factors, with the revisions required to be reviewed by the actuary retained by the Commission at the retirement plan's expense.

Section-by-Section Summary

A section-by-section summary of H.F. 2168 (Lanning); S.F. 2010 (Rosen) is attached.

Discussion and Analysis

H.F. 2168 (Lanning); S.F. 2010 (Rosen) shifts the current ultimate interest rate actuarial assumption used in Minnesota defined benefit retirement plan actuarial valuation work to a select-and-ultimate interest rate actuarial assumption, downsizes the select interest rate actuarial assumption for the ten-year period 2012-2021 from 8.5% to 8.0%, downsizes the salary scale actuarial assumption for the three largest general employee retirement plans and the largest public safety retirement plan by approximately 0.75% to 1.00%, reduces the payroll growth rate actuarial assumption for all retirement plans using a level percentage of increasing payroll amortization procedure to 3.25% per year, revises the statutory interest

rates for refund repayments, equivalent contribution leave payments, prior service credit purchase payments, and unpaid or omitted deduction or contribution amounts consistent with the interest rate actuarial assumption rate change, and requires revisions in annuity reserve factors, optional annuity forms, and actuarial equivalent early retirement reduction rates based on the interest rate actuarial assumption change by 2013.

The proposed legislation raises a number of pension and related public policy issues for consideration by and possible discussion by the Commission, as follows:

1. Appropriateness of the Change to a Select-and-Ultimate Interest Rate Actuarial Assumption. The policy issue is whether or not it is appropriate to replace the current 8.5% interest rate actuarial assumption with a select-and-ultimate interest rate actuarial assumption, using a reduced select period interest rate actuarial assumption. Select-and-ultimate interest rate actuarial assumptions are not common among public retirement plans nationally, with Vermont apparently being the sole example of the practice currently, although select-and-ultimate actuarial assumptions are common in salary actuarial assumptions, another of the economic actuarial assumptions, and in many of the demographic actuarial assumptions. If the concern about the optimism about future investment performance of Minnesota public pension plan portfolios represented by the current interest rate actuarial assumptions is well placed, but there is a lack of unanimity on a replacement ultimate interest rate actuarial assumption amount and its likely duration, the use of a select-and-ultimate interest rate assumption would represent an initial step in recognizing more modest future investment performance.
2. Appropriateness of an 8.00% Select Interest Rate Actuarial Assumption. The policy issue is whether or not it is appropriate to use an 8.00% interest rate actuarial assumption during the select period. In the 2004-2008 experience studies of the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), the General Employees Retirement Plan of the Public Employees Retirement Association (PERA-General), and the Teachers Retirement Association (TRA), Mercer, based on Mercer Investment Consulting long-term return projections for various asset classes, the State Board of Investment retirement plan portfolio, and a 3.00% inflation assumption, recommended an 8.00% interest rate actuarial assumption. In reviewing the three experience studies, the actuarial firm retained by the Commission, Milliman, in 2010 indicated that its modeling of future investment performance was very similar to Mercer's, but declined to specifically ratify Mercer's recommendation of a reduced interest rate actuarial assumption and, instead suggested that an unbiased opinion from a totally independent third party with investment expertise be obtained by the Commission. The Commission did not specifically implement the Milliman suggestion.

Testimony from the State Board of Investment during the September 2011 Commission meeting indicates that there has been investment performance in excess of 8.5% for the total period since 1980, for the last 20-year period, and for Fiscal Years 2010 and 2011, but that there has been investment performance under 8.5% for the last ten-year period, for the last five-year period, and for Fiscal Year 2009. Projections of future investment performance assembled from various investment advisors by the State Board of Investment and presented by Howard Bicker, Executive Director of the State Board of Investment, testified at the September 2011 Commission meeting indicated that five forecasts of future investment performance rates were above 8.5% (high of 9.49% and low of 8.56%) and that five forecasts were below 8.5% (high of 8.36% and low of 7.03%). The State Board of Investment investment performance forecast can be found in **Attachment A**.

In October 2011, Minnesota State Economist Tom Stinson summarized his outlook about future economic growth and inflation and indicated that it would be prudent to downsize the interest rate actuarial assumption from 8.5% to 8.0%. Dr. Stinson's comments can be found in **Attachment B**.

The board of trustees of the Teachers Retirement Association (TRA) has formally taken a position favoring the retention of the 8.5% interest rate actuarial assumption.

3. Appropriateness of the Use of a Ten-Year Period for the Select Interest Rate Actuarial Assumption. The policy issue is whether or not a ten-year period is the appropriate select period if it is advisable to implement a select-and-ultimate interest rate actuarial assumption. The proposed ten-year select period apparently reflects the general time horizon for investment performance forecasts by investment advisory firms. The future investment performance results provided to the Commission in September 2011 (**Attachment A**), representing 12 forecasts, included seven that had a ten-year timeframe, one that had a 10-15-year timeframe, one that had a 20-30-year timeframe, and two that had a 30-year timeframe. If the forecasters typically utilize a ten-year time horizon, a select interest rate actuarial assumption that replicates that time period appears reasonable on its face.

4. Appropriateness of the Retention of an 8.5% Interest Rate Actuarial Assumption. The policy issue is whether or not it is appropriate to retain the current 8.5% interest rate actuarial assumption as the ultimate interest rate actuarial assumption. Historically, the State Board of Investment has argued in favor of the retention of an 8.5% interest rate actuarial assumption for the various statewide and major local Minnesota public pension plans. At least one of the Minnesota public retirement plans has formally gone on record as favoring the retention of an 8.5% interest rate actuarial assumption. Given the debate on the issue between an 8.5% interest rate actuarial assumption and an 8.0% interest rate actuarial assumption, the use of a select-and-ultimate interest rate actuarial assumption procedure combining both competing interest rates could be viewed as a compromise that retains future legislative options to either extend or shorten the select period reduced interest rate as developments occur.
5. Appropriateness of the Salary Scale Revisions. The policy issue is whether or not the potential revisions in the salary scale actuarial assumption for MSRS-General, PERA-General, PERA-P&F, and TRA are appropriate. Under the Actuarial Standards of Practice No. 27, Selection of Economic Assumptions for Measuring Pension Obligations, developed by the Actuarial Standards Board in 2007, and updated for deviation language in 2011, requires that economic actuarial assumptions be developed by identifying the components of the assumption, evaluating the relevant data, developing the best-estimate range for the actuarial assumption that reflects appropriate measurement-specific factors, evaluating measurement-specific factors, and selecting a specific point within the best-estimate range. Inflation is a component for the interest rate actuarial assumption, the salary scale actuarial assumption, and the payroll growth actuarial assumption. On behalf of the Commission chair, the actuarial firm retained by the Commission, Milliman, was requested to develop service-related salary scale actuarial assumptions for MSRS-General, PERA-General, PERA-P&F, and TRA that are consistent with the smaller inflation rate view of Minnesota State Economist Tom Stinson. The Milliman materials can be found in **Attachment C**. A change in interest rate actuarial assumptions based on a modified view of future inflation without also reviewing the salary scale and payroll growth actuarial assumptions, also derived in part from the likely future inflation rate would not be consistent with the Actuarial Standards.
6. Need for Additional Salary Scale Actuarial Assumption Revisions Beyond MSRS-General, PERA-General, PERA-P&F, and TRA. The policy issue is the need for the formulation of revisions in the salary scale actuarial assumption for the six remaining statewide and major local retirement plans with active members beyond MSRS-General, PERA-General, TRA, and PERA-P&F if the salary scale actuarial assumptions of MSRS-General, PERA-General, TRA, and PERA-P&F are revised. The salary scale actuarial assumptions of MSRS-General, PERA-General, TRA, and PERA-P&F were recently revised based on recent experience studies, converted from service-related select and age-related ultimate actuarial assumptions as a result of those experience studies and the review by Milliman, the actuarial firm retained by the Commission. Because of the lack of recent experience studies for the remaining retirement plans with active members and because of the extent of the effort needed to produce new service-related ultimate salary scale actuarial assumptions and the lack of specific needed experience study information, it was not likely to be possible for Milliman to generate the additional salary scale actuarial assumption revisions needed to fully reflect the change in the inflation assumption contained in the interest rate assumption change reflecting the testimony of Minnesota State Economist Tom Stinson. The actuaries retained by the various remaining retirement plans would be in good position for the development of the revised salary scale actuarial assumptions for Commission consideration in 2013.
7. Appropriateness of the Payroll Growth Actuarial Assumption Revision. The policy issue is whether or not the resetting of the payroll growth actuarial assumption for the ten Minnesota defined benefit public retirement plans using the level percentage of an increasing payroll amortization procedure is appropriate. The payroll growth assumption proposal in **Attachment C** was developed by Milliman, the actuarial consulting firm retained by the Legislative Commission on Pensions and Retirement at the request of the Commission chair as part of an effort to develop a set of economic actuarial assumptions that are consistent and reflect the future inflation forecast of Minnesota State Economist Tom Stinson. The most recent changes in the payroll increase actuarial assumptions, covering MSRS-General, PERA-General, TRA, and PERA-P&F, reduced the assumptions to 3.75%, with the balance of the retirement plans having covered payroll actuarial assumptions set at 4.00% (one plan), 4.50% (five plans), and 5.00% (one plan). Payroll growth is a function of a combination of plan membership group size changes, inflation as reflected in cost-of-living adjustments, and productivity or promotional salary increases.
8. Actuarial Cost Impact of the Actuarial Assumption Changes. The policy issue is the actuarial cost impact of the proposed actuarial assumption changes and any contribution changes needed in response to the actuarial cost changes. The consulting actuarial firm retained by the Legislative Commission on

Pensions and Retirement, Milliman, at the request of the Commission chair, was requested to prepare the actuarial cost impact of the actuarial assumption changes. The Milliman cost estimate (**Attachment C**) summarized by the Commission staff, is as follows:

MSRS-General

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)						
Membership												
Active Members	47,955	--	--	--	--	47,955						
Service Retirees	24,900	--	--	--	--	24,900						
Disabilitants	1,723	--	--	--	--	1,723						
Survivors	3,541	--	--	--	--	3,541						
Deferred Retirees	15,422	--	--	--	--	15,422						
Nonvest Form Memb	6,117	--	--	--	--	6,117						
Total Membership	99,658	--	--	--	--	99,658						
Funded Status												
Accrued Liability	\$10,576,481,000	\$357,284,000	-\$133,055,000	--	\$222,864,000	\$10,799,345,000						
Current Assets	<u>\$9,130,011,000</u>	--	--	--	--	<u>\$9,130,011,000</u>						
Unf. Accr. Liab.	\$1,446,470,000	\$357,284,000	-\$133,055,000	--	\$222,864,000	\$1,669,334,000						
Funding Ratio	86.32%	-2.82%	1.10%	--	-1.78%	84.54%						
Financing Requirements												
Covered Payroll	\$2,459,441,000	--	--	--	--	\$2,459,441,000						
Benefits Payable	\$505,573,000	--	--	--	--	\$505,573,000						
Normal Cost	7.14%	\$175,488,000	0.37	9,100,000	-0.50	-12,297,000	--	-0.15	-3,689,162	6.99%	\$171,798,839	
Administrative Expenses	0.19%	\$4,673,000	--	--	--	--	--	--	--	0.19%	\$4,673,000	
Amortization	3.70%	<u>\$90,999,000</u>	0.77	18,938,000	-0.32	-7,870,000	0.20	4,919,000	0.69	16,970,143	4.39%	<u>\$107,969,143</u>
Total Requirements	11.03%	\$271,160,000	1.14	28,038,000	-0.82	-20,167,000	0.20	4,919,000	0.54	13,280,981	11.57%	\$284,440,981
Employee Contrib.	5.00%	\$122,972,000	--	--	--	--	--	--	--	5.00%	\$122,972,000	
Employer Contrib.	5.00%	\$122,972,000	--	--	--	--	--	--	--	5.00%	\$122,972,000	
Employer Add'l Cont.	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Direct State Funding	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Other Govt. Funding	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Admin. Assessment	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Total Contributions	10.00%	\$245,944,000	--	--	--	--	--	--	--	10.00%	\$245,944,000	
Total Requirements	11.03%	\$271,160,000	1.14	28,038,000	-0.82	-20,167,000	0.20	4,919,000	0.54	13,280,981	11.57%	\$284,440,981
Total Contributions	10.00%	<u>\$245,944,000</u>	--	--	--	--	--	--	--	10.00%	<u>\$245,944,000</u>	
Deficiency (Surplus)	1.03%	\$25,216,000	1.14	28,038,000	-0.82	-20,167,000	0.20	4,919,000	0.54	13,280,981	1.57%	\$38,496,981

PERA-General

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)						
Membership												
Active Members	139,952	--	--	--	--	139,952						
Service Retirees	62,198	--	--	--	--	62,198						
Disabilitants	2,334	--	--	--	--	2,334						
Survivors	7,289	--	--	--	--	7,289						
Deferred Retirees	45,325	--	--	--	--	45,325						
Nonvest Form Memb	109,630	--	--	--	--	109,630						
Total Membership	366,728	--	--	--	--	366,728						
Funded Status												
Accrued Liability	\$17,898,849,000	\$481,856,000	-\$232,883,000	--	\$242,268,000	\$18,141,117,000						
Current Assets	<u>\$13,455,753,000</u>	--	--	--	--	<u>\$13,455,753,000</u>						
Unf. Accr. Liab.	\$4,443,096,000	\$481,856,000	-\$232,883,000	--	\$242,268,000	\$4,685,364,000						
Funding Ratio	75.18%	-1.97%	0.99%	--	-1.00%	74.17%						
Financing Requirements												
Covered Payroll	\$5,183,629,000	--	--	--	--	\$5,183,629,000						
Benefits Payable	\$950,708,000	--	--	--	--	\$950,708,000						
Normal Cost	6.65%	\$344,925,000	0.33	17,105,976	-0.44	-22,807,968	--	-0.13	-6,738,718	6.52%	\$338,186,282	
Administrative Expenses	0.19%	\$9,849,000	--	--	--	--	--	--	--	0.19%	\$9,849,000	
Amortization	6.63%	<u>\$343,675,000</u>	0.50	25,918,145	-0.30	-15,550,887	0.26	13,477,435	0.47	24,363,056	7.10%	<u>\$368,038,056</u>
Total Requirements	13.47%	\$698,449,000	0.83	43,024,121	-0.74	-38,358,855	0.26	13,477,435	0.34	17,624,339	13.81%	\$716,073,339
Employee Contrib.	6.25%	\$323,996,000	--	--	--	--	--	--	--	6.25%	\$323,996,000	
Employer Contrib.	7.25%	\$375,846,000	--	--	--	--	--	--	--	7.25%	\$375,846,000	
Employer Add'l Cont.	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Direct State Funding	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Other Govt. Funding	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Admin. Assessment	0.00%	\$0	--	--	--	--	--	--	--	0.00%	\$0	
Total Contributions	13.50%	\$699,842,000	--	--	--	--	--	--	--	13.50%	\$699,842,000	
Total Requirements	13.47%	\$698,449,000	0.83	43,024,121	-0.74	-38,358,855	0.26	13,477,435	0.34	17,624,339	13.81%	\$716,073,339
Total Contributions	13.50%	<u>\$699,842,000</u>	--	--	--	--	--	--	--	13.50%	<u>\$699,842,000</u>	
Deficiency (Surplus)	-0.03%	-\$1,393,000	0.83	43,024,121	-0.74	-38,358,855	0.26	13,477,435	0.34	17,624,339	0.31%	\$16,231,339

TRA

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	76,755	--	--	--	--	76,755
Service Retirees	49,079	--	--	--	--	49,079
Disabilitants	602	--	--	--	--	602
Survivors	3,856	--	--	--	--	3,856
Deferred Retirees	13,237	--	--	--	--	13,237
Nonvest Form Memb	<u>25,196</u>	--	--	--	--	<u>25,196</u>
Total Membership	168,725	--	--	--	--	168,725
Funded Status						
Accrued Liability	\$22,171,493,000	\$628,690,000	-\$263,941,000	--	--	\$22,171,493,000
Current Assets	<u>\$17,132,383,000</u>	--	--	--	--	<u>\$17,132,383,000</u>
Unf. Accr. Liab.	\$5,039,110,000	\$628,690,000	-\$263,941,000	--	\$0	\$5,039,110,000
Funding Ratio	77.27%	-2.13%	0.93%	--	0.00%	77.27%
Financing Requirements						
Covered Payroll	\$4,106,922,000	--	--	--	--	\$4,106,922,000
Benefits Payable	\$1,459,550,000	--	--	--	--	\$1,459,550,000
Normal Cost	8.17% \$335,649,000	0.41 16,838,380	-0.66 -27,105,685	-- --	-0.30 -12,320,766	7.8% \$323,328,234
Administrative Expenses	0.24% \$9,857,000	-- --	-- --	-- --	-- --	0.24% \$9,857,000
Amortization	8.16% <u>\$335,125,000</u>	0.73 <u>29,980,531</u>	-0.37 <u>-15,195,611</u>	0.40 <u>16,427,688</u>	0.88 <u>36,140,914</u>	9.04% <u>\$371,265,914</u>
Total Requirements	16.57% \$680,631,000	1.14 46,818,911	-1.03 -42,301,297	0.40 16,427,688	0.58 23,820,148	17.15% \$704,451,148
Employee Contrib.	6.00% \$246,490,000	-- --	-- --	-- --	-- --	6.00% \$246,490,000
Employer Contrib.	6.16% \$252,854,000	-- --	-- --	-- --	-- --	6.16% \$252,854,000
Employer Add'l Cont.	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Direct State Funding	0.53% \$21,510,000	-- --	-- --	-- --	-- --	0.53% \$21,510,000
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Admin. Assessment	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Total Contributions	12.69% \$520,854,000	-- --	-- --	-- --	-- --	12.69% \$520,854,000
Total Requirements	16.57% \$680,631,000	1.14 46,818,911	-1.03 -42,301,297	0.40 16,427,688	0.58 23,820,148	17.15% \$704,451,148
Total Contributions	12.69% <u>\$520,854,000</u>	-- --	-- --	-- --	-- --	12.69% <u>\$520,854,000</u>
Deficiency (Surplus)	3.88% \$159,777,000	1.14 46,818,911	-1.03 -42,301,297	0.40 16,427,688	0.58 23,820,148	4.46% \$183,597,148

MERF Division of PERA

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	107	--	--	--	--	107
Service Retirees	3,256	--	--	--	--	3,256
Disabilitants	131	--	--	--	--	131
Survivors	806	--	--	--	--	806
Deferred Retirees	88	--	--	--	--	88
Nonvest Form Memb	<u>0</u>	--	--	--	--	<u>0</u>
Total Membership	4,388	--	--	--	--	4,388
Funded Status						
Accrued Liability	\$1,238,703,000	\$33,321,000	--	--	\$33,321,000	\$1,272,024,000
Current Assets	<u>\$910,987,000</u>	--	--	--	--	<u>\$910,987,000</u>
Unf. Accr. Liab.	\$327,716,000	\$33,321,000	--	--	\$33,321,000	\$361,037,000
Funding Ratio	73.54%	-1.93%	--	--	-1.93%	71.62%
Financing Requirements						
Covered Payroll	\$6,747,000	--	--	--	--	\$6,747,000
Benefits Payable	\$143,961,000	--	--	--	--	\$143,961,000
Normal Cost	5.59% \$377,000	0.27 18,217	-- --	-- --	0.27 18,217	5.86% \$395,217
Administrative Expenses	6.66% \$450,000	-- --	-- --	-- --	-- --	6.66% \$450,000
Amortization	513.25% <u>\$34,630,000</u>	34.83 <u>2,349,980</u>	-- --	-- --	34.83 <u>2,349,980</u>	548.08% <u>\$36,979,980</u>
Total Requirements	525.50% \$35,457,000	35.10 2,368,197	-- --	-- --	35.10 2,368,197	560.60% \$37,825,197
Employee Contrib.	9.75% \$658,000	-- --	-- --	-- --	-- --	9.75% \$658,000
Employer Contrib.	9.75% \$658,000	-- --	-- --	-- --	-- --	9.75% \$658,000
Employer Add'l Cont.	460.64% \$31,081,000	-- --	-- --	-- --	-- --	460.64% \$31,081,000
Direct State Funding	337.18% \$22,750,000	-- --	-- --	-- --	-- --	337.18% \$22,750,000
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Admin. Assessment	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Total Contributions	817.32% \$55,147,000	-- --	-- --	-- --	-- --	817.32% \$55,147,000
Total Requirements	525.50% \$35,457,000	35.10 2,368,197	-- --	-- --	35.10 2,368,197	560.60% \$37,825,197
Total Contributions	817.32% <u>\$55,147,000</u>	-- --	-- --	-- --	-- --	817.32% <u>\$55,147,000</u>
Deficiency (Surplus)	-291.82% -\$19,690,000	35.10 2,368,197	-- --	-- --	35.10 2,368,197	-256.72% -\$17,321,803

State Patrol Retirement Plan

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	862	--	--	--	--	862
Service Retirees	700	--	--	--	--	700
Disabilitants	48	--	--	--	--	48
Survivors	184	--	--	--	--	184
Deferred Retirees	38	--	--	--	--	38
Nonvest Form Memb	15	--	--	--	--	15
Total Membership	1,847	--	--	--	--	1,847
Funded Status						
Accrued Liability	\$700,898,000	\$21,606,000			\$21,606,000	\$722,504,000
Current Assets	\$563,046,000	--	--	--	--	\$563,046,000
Unf. Accr. Liab.	\$137,852,000	\$21,606,000			\$21,606,000	\$159,458,000
Funding Ratio	80.33%	-2.40%	--	--	-2.40%	77.93%
Financing Requirements						
Covered Payroll	\$66,035,000	--	--	--	--	\$66,035,000
Benefits Payable	\$47,844,000	--	--	--	--	\$47,844,000
Normal Cost	22.91% \$15,127,000	1.19 785,817	-- --	-- --	1.19 785,817	24.10% \$15,912,817
Administrative Expenses	0.14% \$92,000	-- --	-- --	-- --	-- --	0.14% \$92,000
Amortization	13.20% \$8,717,000	1.59 1,049,957	-- --	1.65 1,089,578	2.55 1,683,893	15.75% \$10,400,893
Total Requirements	36.25% \$23,936,000	2.78 1,835,773	-- --	1.65 1,089,578	3.74 2,469,709	39.99% \$26,405,709
Employee Contrib.	12.40% \$8,188,000	-- --	-- --	-- --	-- --	12.40% \$8,188,000
Employer Contrib.	18.60% \$12,283,000	-- --	-- --	-- --	-- --	18.60% \$12,283,000
Employer Add'l Cont.	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Direct State Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Admin. Assessment	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Total Contributions	31.00% \$20,471,000	-- --	-- --	-- --	-- --	31.00% \$20,471,000
Total Requirements	36.25% \$23,936,000	2.78 1,835,773	-- --	1.65 1,089,578	3.74 2,469,709	39.99% \$26,405,709
Total Contributions	31.00% \$20,471,000	-- --	-- --	-- --	-- --	31.00% \$20,471,000
Deficiency (Surplus)	5.25% \$3,465,000	2.78 1,835,773	-- --	1.65 1,089,578	3.74 2,469,709	8.99% \$5,934,709

PERA-P&F

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	10,880	--	--	--	--	10,880
Service Retirees	5,549	--	--	--	--	5,549
Disabilitants	864	--	--	--	--	864
Survivors	1,435	--	--	--	--	1,435
Deferred Retirees	1,335	--	--	--	--	1,335
Nonvest Form Memb	870	--	--	--	--	870
Total Membership	20,933	--	--	--	--	20,933
Funded Status						
Accrued Liability	\$6,363,546,000	\$153,818,000	-\$35,965,000	--	\$118,694,000	\$6,482,240,000
Current Assets	\$5,274,602,000	--	--	--	--	\$5,274,602,000
Unf. Accr. Liab.	\$1,088,944,000	\$153,818,000	-\$35,965,000	--	\$118,694,000	\$1,207,638,000
Funding Ratio	82.89%	-1.96%	0.47%	--	-1.52%	81.37%
Financing Requirements						
Covered Payroll	\$796,689,000	--	--	--	--	\$796,689,000
Benefits Payable	\$342,219,000	--	--	--	--	\$342,219,000
Normal Cost	19.77% \$157,490,000	0.98 7,807,552	-1.31 -10,436,626	-- --	-0.39 -3,107,087	19.38% \$154,382,913
Administrative Expenses	0.10% \$797,000	-- --	-- --	-- --	-- --	0.10% \$797,000
Amortization	8.91% \$70,985,000	0.94 7,488,877	-0.23 -1,832,385	0.46 3,664,769	1.22 9,719,606	10.13% \$80,704,606
Total Requirements	28.78% \$229,272,000	1.92 15,296,429	-1.54 -12,269,011	0.46 3,664,769	0.84 6,612,519	29.62% \$235,884,519
Employee Contrib.	9.60% \$76,482,000	-- --	-- --	-- --	-- --	9.60% \$76,482,000
Employer Contrib.	14.40% \$114,723,000	-- --	-- --	-- --	-- --	14.40% \$114,723,000
Employer Add'l Cont.	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Direct State Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Admin. Assessment	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Total Contributions	24.00% \$191,205,000	-- --	-- --	-- --	-- --	24.00% \$191,205,000
Total Requirements	28.78% \$229,272,000	1.92 15,296,429	-1.54 -12,269,011	0.46 3,664,769	0.84 6,612,519	29.62% \$235,884,519
Total Contributions	24.00% \$191,205,000	-- --	-- --	-- --	-- --	24.00% \$191,205,000
Deficiency (Surplus)	4.78% \$38,067,000	1.92 15,296,429	-1.54 -12,269,011	0.46 3,664,769	0.84 6,612,519	5.62% \$44,679,519

MSRS-Correctional

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	4,322	--	--	--	--	4,322
Service Retirees	1,621	--	--	--	--	1,621
Disabilitants	230	--	--	--	--	230
Survivors	165	--	--	--	--	165
Deferred Retirees	1,035	--	--	--	--	1,035
Nonvest Form Memb	<u>501</u>	--	--	--	--	<u>501</u>
Total Membership	7,874	--	--	--	--	7,874
Funded Status						
Accrued Liability	\$907,012,000	\$24,973,000	--	--	\$24,973,000	\$931,985,000
Current Assets	<u>\$637,027,000</u>	--	--	--	--	<u>\$637,027,000</u>
Unf. Accr. Liab.	\$269,985,000	\$24,973,000	--	--	\$24,973,000	\$294,958,000
Funding Ratio	70.23%	-1.88%	--	--	-1.88%	68.35%
Financing Requirements						
Covered Payroll	\$205,608,000	--	--	--	--	\$205,608,000
Benefits Payable	\$39,116,000	--	--	--	--	\$39,116,000
Normal Cost	17.89% \$36,793,000	0.37 \$760,750	-0.50 -1,028,040	-- --	0.93 1,912,154	18.82% \$38,705,154
Administrative Expenses	0.17% \$350,000	-- --	-- --	-- --	-- --	0.17% \$350,000
Amortization	7.94% <u>\$16,325,000</u>	<u>0.77</u> \$1,583,182	<u>-0.32</u> -657,946	<u>0.20</u> 411,216	<u>1.58</u> 3,248,606	<u>9.52%</u> <u>\$19,573,606</u>
Total Requirements	26.00% \$53,468,000	1.14 \$2,343,931	-0.82 -1,685,986	0.20 411,216	2.51 5,160,761	28.51% \$58,628,761
Employee Contrib.	8.60% \$17,682,000	-- --	-- --	-- --	-- --	8.60% \$17,682,000
Employer Contrib.	12.10% \$24,879,000	-- --	-- --	-- --	-- --	12.10% \$24,879,000
Employer Add'l Cont.	0.00% \$0	-- --	-- --	-- --	-- --	0.00% 0
Direct State Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% 0
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% 0
Admin. Assessment	<u>0.00%</u> \$0	-- --	-- --	-- --	-- --	<u>0.00%</u> 0
Total Contributions	20.70% \$42,561,000	-- --	-- --	-- --	-- --	20.70% \$42,561,000
Total Requirements	26.00% \$53,468,000	1.14 2,343,931	-0.82 -1,685,986	0.20 \$411,216	2.51 5,160,761	28.51% \$58,628,761
Total Contributions	<u>20.70%</u> <u>\$42,561,000</u>	-- --	-- --	-- --	-- --	<u>20.70%</u> <u>\$42,561,000</u>
Deficiency (Surplus)	5.30% \$10,907,000	1.14 2,343,931	-0.82 -1,685,986	0.20 411,216	2.51 5,160,761	7.81% \$16,067,761

PERA-Correctional

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	3,510	--	--	--	--	3,510
Service Retirees	373	--	--	--	--	373
Disabilitants	133	--	--	--	--	133
Survivors	22	--	--	--	--	22
Deferred Retirees	1,981	--	--	--	--	1,981
Nonvest Form Memb	<u>1,624</u>	--	--	--	--	<u>1,624</u>
Total Membership	7,643	--	--	--	--	7,643
Funded Status						
Accrued Liability	\$284,593,000	\$3,815,000	--	--	\$3,815,000	\$288,408,000
Current Assets	<u>\$274,704,000</u>	--	--	--	--	<u>\$274,704,000</u>
Unf. Accr. Liab.	\$9,889,000	\$3,815,000	--	--	\$3,815,000	\$13,704,000
Funding Ratio	96.53%	-1.28%	--	--	-1.28%	95.25%
Financing Requirements						
Covered Payroll	\$173,157,000	--	--	--	--	\$173,157,000
Benefits Payable	\$4,026,000	--	--	--	--	\$4,026,000
Normal Cost	12.68% \$21,958,000	0.63% \$1,090,889	-- --	-- --	0.63% \$1,090,889	13.31% \$23,048,889
Administrative Expenses	0.13% \$229,000	-- --	-- --	-- --	-- --	0.13% \$229,000
Amortization	<u>0.61%</u> <u>\$1,056,000</u>	<u>0.21%</u> <u>\$363,630</u>	-- --	<u>0.03%</u> <u>\$51,947</u>	<u>0.26%</u> <u>\$450,208</u>	<u>0.87%</u> <u>\$1,506,208</u>
Total Requirements	13.42% \$23,243,000	0.84% \$1,454,519	-- --	0.03% \$51,947	0.89% \$1,541,097	14.31% \$24,784,097
Employee Contrib.	5.83% \$10,095,000	-- --	-- --	-- --	-- --	5.83% \$10,095,000
Employer Contrib.	8.75% \$15,151,000	-- --	-- --	-- --	-- --	8.75% \$15,151,000
Employer Add'l Cont.	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Direct State Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Other Govt. Funding	0.00% \$0	-- --	-- --	-- --	-- --	0.00% \$0
Admin. Assessment	<u>0.00%</u> \$0	-- --	-- --	-- --	-- --	<u>0.00%</u> \$0
Total Contributions	14.58% \$25,246,000	-- --	-- --	-- --	-- --	14.58% \$25,246,000
Total Requirements	13.42% \$23,243,000	0.84% \$1,454,519	-- --	0.03% \$51,947	0.89% \$1,541,097	14.31% \$24,784,097
Total Contributions	<u>14.58%</u> <u>\$25,246,000</u>	-- --	-- --	-- --	-- --	<u>14.58%</u> <u>\$25,246,000</u>
Deficiency (Surplus)	-1.16% -\$2,003,000	0.84% \$1,454,519	-- --	0.03% \$51,947	0.89% \$1,541,097	-0.27% -\$461,903

Judges Retirement Plan

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	308	--	--	--	--	308
Service Retirees	176	--	--	--	--	176
Disabilitants	25	--	--	--	--	25
Survivors	96	--	--	--	--	96
Deferred Retirees	18	--	--	--	--	18
Nonvest Form Memb	<u>0</u>	--	--	--	--	<u>0</u>
Total Membership	623	--	--	--	--	623
Funded Status						
Accrued Liability	\$248,630,000	\$7,772,000	--	--	\$7,772,000	\$256,402,000
Current Assets	<u>\$145,996,000</u>	--	--	--	--	<u>\$145,996,000</u>
Unf. Accr. Liab.	\$102,634,000	\$7,772,000	--	--	\$7,772,000	\$110,406,000
Funding Ratio	58.72%	-1.78%	--	--	-1.78%	56.94%
Financing Requirements						
Covered Payroll	\$41,211,000	--	--	--	--	\$41,211,000
Benefits Payable	\$17,585,000	--	--	--	--	\$17,585,000
Normal Cost	17.23% \$7,102,000	0.89% \$366,778	--	--	0.89% \$366,778	18.12% \$7,468,778
Administrative Expenses	0.08% \$33,000	--	--	--	--	0.08% \$33,000
Amortization	<u>15.84% \$6,528,000</u>	<u>0.65% \$267,872</u>	--	--	<u>1.22% \$502,774</u>	<u>17.78% \$7,327,493</u>
Total Requirements	33.15% \$13,663,000	1.55% \$634,649	--	--	1.22% \$502,774	2.83% \$1,166,271
Employee Contrib.	7.48% \$3,082,000	--	--	--	--	7.48% \$3,082,000
Employer Contrib.	20.50% \$8,448,000	--	--	--	--	20.50% \$8,448,000
Employer Add'l Cont.	0.00% \$0	--	--	--	--	0.00% \$0
Direct State Funding	0.00% \$0	--	--	--	--	0.00% \$0
Other Govt. Funding	0.00% \$0	--	--	--	--	0.00% \$0
Admin. Assessment	<u>0.00% \$0</u>	--	--	--	--	<u>0.00% \$0</u>
Total Contributions	27.98% \$11,530,000	--	--	--	--	27.98% \$11,530,000
Total Requirements	33.15% \$13,663,000	1.55% \$634,649	--	--	1.22% \$502,774	2.83% \$1,166,271
Total Contributions	<u>27.98% \$11,530,000</u>	--	--	--	--	<u>27.98% \$11,530,000</u>
Deficiency (Surplus)	5.18% \$2,133,000	1.55% \$634,649	--	--	1.22% \$502,774	8.00% \$3,299,271

DTRFA

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	1,006	--	--	--	--	1,006
Service Retirees	1,216	--	--	--	--	1,216
Disabilitants	19	--	--	--	--	19
Survivors	109	--	--	--	--	109
Deferred Retirees	290	--	--	--	--	290
Nonvest Form Memb	<u>735</u>	--	--	--	--	<u>735</u>
Total Membership	3,375	--	--	--	--	3,375
Funded Status						
Accrued Liability	\$321,065,000	\$9,104,000	--	--	\$6,010,000	\$327,075,000
Current Assets	<u>\$235,071,975</u>	--	--	--	--	<u>\$235,071,975</u>
Unf. Accr. Liab.	\$85,993,025	\$9,104,000	--	--	\$6,010,000	\$92,003,025
Funding Ratio	73.22%	-2.02%	--	--	-1.35%	71.87%
Financing Requirements						
Covered Payroll	\$54,279,300	--	--	--	--	\$54,279,300
Benefits Payable	\$24,067,915	--	--	--	--	\$24,067,915
Normal Cost	6.08% \$3,298,919	0.30% \$162,838	--	--	0.30% \$162,838	6.38% \$3,461,757
Administrative Expenses	0.89% \$483,086	--	--	--	--	0.89% \$483,086
Amortization	<u>10.27% \$5,574,484</u>	<u>0.73% \$396,239</u>	--	--	<u>1.24% \$673,063</u>	<u>12.03% \$6,529,800</u>
Total Requirements	17.23% \$9,356,489	1.03% \$559,077	--	--	1.24% \$673,063	2.06% \$1,118,154
Employee Contrib.	6.00% \$3,256,758	--	--	--	--	6.00% \$3,256,758
Employer Contrib.	6.29% \$3,414,168	--	--	--	--	6.29% \$3,414,168
Employer Add'l Cont.	0.00% \$0	--	--	--	--	0.00% \$0
Direct State Funding	1.21% \$658,535	--	--	--	--	1.21% \$658,535
Other Govt. Funding	0.00% \$0	--	--	--	--	0.00% \$0
Admin. Assessment	<u>0.00% \$0</u>	--	--	--	--	<u>0.00% \$0</u>
Total Contributions	13.50% \$7,329,461	--	--	--	--	13.50% \$7,329,461
Total Requirements	17.23% \$9,356,489	1.03% \$559,077	--	--	1.24% \$673,063	2.06% \$1,118,154
Total Contributions	<u>13.50% \$7,329,461</u>	--	--	--	--	<u>13.50% \$7,329,461</u>
Deficiency (Surplus)	3.73% \$2,027,028	1.03% \$559,077	--	--	1.24% \$673,063	5.79% \$3,145,182

SPTRFA

	(1) 2011 Actuarial Valuation Results	(2) Actuarial Impact of Interest Change	(3) Actuarial Impact of Salary Scale Change	(4) Actuarial Impact of Payroll Growth Change	(5) Combined Effect of Assumption Changes	(6) Resulting Actuarial Condition of the Retirement Plan (1) + (5)
Membership						
Active Members	3,578	--	--	--	--	3,578
Service Retirees	2,864	--	--	--	--	2,864
Disabilitants	29	--	--	--	--	29
Survivors	319	--	--	--	--	319
Deferred Retirees	1,880	--	--	--	--	1,880
Nonvest Form Memb	1,698	--	--	--	--	1,698
Total Membership	10,368	--	--	--	--	10,368
Funded Status						
Accrued Liability	\$1,389,875,000	\$39,411,000	--	--	\$26,016,000	\$1,415,891,000
Current Assets	\$972,718,000	--	--	--	--	\$972,718,000
Unf. Accr. Liab.	\$417,157,000	\$39,411,000	--	--	\$26,016,000	\$443,173,000
Funding Ratio	69.99%	-1.93%	--	--	-1.29%	68.70%
Financing Requirements						
Covered Payroll	\$239,501,000	--	--	--	--	\$239,501,000
Benefits Payable	\$97,287,000	--	--	--	--	\$97,287,000
Normal Cost	7.59% \$18,165,000	0.38% \$910,104	--	--	0.38% \$910,104	7.97% \$19,075,104
Administrative Expenses	0.29% \$694,000	--	--	--	--	0.29% \$694,000
Amortization	10.49% \$25,124,000	0.62% \$1,484,906	--	1.90% \$4,550,519	2.36% \$5,652,224	12.85% \$30,776,224
Total Requirements	18.37% \$43,983,000	1.00% \$2,395,010	--	1.90% \$4,550,519	2.75% \$6,562,327	21.12% \$50,545,327
Employee Contrib.	5.78% \$13,838,000	--	--	--	--	5.78% \$13,838,000
Employer Contrib.	8.63% \$20,661,000	--	--	--	--	8.63% \$20,661,000
Employer Add'l Cont.	0.00% \$0	--	--	--	--	0.00% \$0
Direct State Funding	1.69% \$4,057,000	--	--	--	--	1.69% \$4,057,000
Other Govt. Funding	0.00% \$0	--	--	--	--	0.00% \$0
Admin. Assessment	0.00% \$0	--	--	--	--	0.00% \$0
Total Contributions	16.10% \$38,556,000	--	--	--	--	16.10% \$38,556,000
Total Requirements	18.37% \$43,983,000	1.00% \$2,395,010	--	1.90% \$4,550,519	2.75% \$6,562,327	21.12% \$50,545,327
Total Contributions	16.10% \$38,556,000	--	--	--	--	16.10% \$38,556,000
Deficiency (Surplus)	2.27% \$5,427,000	1.00% \$2,395,010	--	1.90% \$4,550,519	2.75% \$6,562,327	5.02% \$11,989,327

9. Appropriateness of Interest Rate Changes for Refund Repayments, Service Credit Purchases, Leave Payments, and Unpaid or Omitted Contribution Payments. The policy issue is the appropriateness, upon modifying the interest rate actuarial assumption, of changing the interest rates to be charged to plan members or employing units in repaying refunds, paying equivalent contributions for leaves, purchasing service credit, or paying omitted or unpaid deductions or contributions in line with the interest rate actuarial assumption revision. Historically, these rates have been revised when the interest rate actuarial assumption was changed and historically the revision in these rates was proportional or identical to the interest rate actuarial assumption change. The proposed legislation follows this historic practice. Having different rates for various periods, as proposed, could cause some additional administrative complexities or difficulties that may have to be overcome.
10. Appropriateness of the Mandate for Annuity Reserve Factor, Optional Annuity Form Factors, and Actuarial Equivalent Early Retirement Reduction Rate Reformulations. The policy issue is whether or not it is appropriate for the Legislature to mandate that the various retirement plans revise their annuity reserve factors, optional annuity form factors, and actuarial early retirement reduction rates as a consequence of the interest rate actuarial assumption modification in the proposed legislation, whether a January 2013 due date for those revisions is reasonable, and whether or not requiring the retirement plans to submit those revisions for review, at their cost, by the consulting actuary retained by the Commission is appropriate.

The benefits payable under these factors and rates are required by current statute to be the actuarial equivalent to the retirement annuities or benefits calculated under statute at the normal retirement age or equivalent date. Actuarial equivalency is a function, in most cases, of the assumed interest rate actuarial assumption and the mortality table actuarial assumption. Unless the factors and rates are revised upon the change of either actuarial assumption, the applicable retirement plan will incur either an unintended actuarial gain or an actuarial loss. To avoid this, it would appear to be reasonable that rates and factors be updated as soon as possible following the actuarial assumption change.

A January 2013 date is relatively soon, but is later than the June 30 date on which a relatively large number of retirees typically commence an annuity receipt.

The requirement that factor and rate changes be reviewed by the Commission-retained actuary insures that the factor and rate changes are undertaken by the various retirement plan consulting actuaries in a consistent and accurate manner. The requirement that this review be done at the expense of the retirement plan is a question of fiscal expediency, since the Commission has not previously requested an appropriation to cover this actuarial service within its budget and the Commission has not been allocated the fiscal resources to cover the cost of the review.

Section-by-Section Summary of H.F. 2168 (Lanning); S.F. 2010 (Rosen)

Sec.	Pg.Ln	Stat. Provision	Retirement Plan	Summary
Article 1: Economic Assumption Revisions				
1	1.20	356.215, Subd. 8	Statewide and major local plans	Sets a select and-ultimate interest rate assumption of 8.0% for the period from June 30, 2012, to June 30, 2021, and an ultimate interest rate assumption of 8.5% after June 30, 2021, resets the ultimate salary increase assumption for MSRS-General, PERA-General, TRA, and PERA-P&F consistent with the revised select pre-retirement interest rate assumption, and resets the payroll growth assumption for all statewide and major local retirement plans except the Elective State Officers Retirement Plan consistent with the revised ultimate salary increase assumption.
Article 2: Conforming Changes Related to the Interest Rate Assumption Change				
1	7.4	3A.03, Subd. 2	Legislators Plan	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
2	7.23	352.01, Subd. 13a	MSRS-General	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
3	8.4	352.017, Subd. 2	MSRS-General	Resets the interest rate on equivalent contributions for a leave made in one year consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
4	8.30	352.04, Subd. 8	MSRS-General	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
5	9.20	352.04, Subd. 9	MSRS-General	Resets the interest rate on erroneous deduction amounts consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
6	10.7	352.23	MSRS-General	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
7	10.25	352.27	MSRS-General	Resets the interest rate on equivalent contributions for military service leave periods consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
8	12.1	352.271	MSRS-General	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
9	12.21	352.955, Subd. 2	MSRS-Correctional	For pre-2007 coverage transfers, sets the interest rate on additional equivalent contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
10	13.18	352.955, Subd. 3	MSRS-Correctional	For post-2007 coverage transfers, sets the interest rate on additional equivalent contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
11	14.35	352B.013, Subd. 2	State Patrol Plan	Resets the interest rate on equivalent contributions for a leave made in one year consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
12	15.27	352B.085	State Patrol Plan	Resets the interest rate on equivalent contributions for a leave made in one year consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
13	16.8	352B.086	State Patrol Plan	Resets the interest rate on equivalent contributions for military service leave periods consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
14	17.17	352B.11, Subd. 4	State Patrol Plan	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
15	17.27	352D.05, Subd. 4	MSRS-Unclassified	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
16	18.7	352D.11, Subd. 2	MSRS-Unclassified	For an authorized service credit purchase, sets the interest rate consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
17	18.19	352D.12	MSRS-Unclassified	For a transfer of previously made contributions from a defined benefit plan, resets interest on the prior contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
18	19.10	353.01, Subd. 16	PERA-General	Resets the interest rate on equivalent contributions for a leave made in one year and for military service leave periods consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
19	22.26	353.0161, Subd. 2	PERA-General	For an authorized service credit purchase, sets the interest rate consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
20	23.14	353.0162	PERA-General	For the purchase of salary credit during periods of reduced salary, resets interest consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
21	24.30	353.27, Subd. 7a	PERA-General	Resets the interest rate on erroneous deduction amounts consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
22	25.25	353.27, Subd. 12	PERA-General	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
23	27.4	353.27, Subd. 12a	PERA-General	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
24	27.24	353.28, Subd. 5	PERA-General	For various payments due, sets the interest consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.

Section-by-Section Summary of H.F. 2168 (Lanning); S.F. 2010 (Rosen)

Sec.	Pg.Ln	Stat. Provision	Retirement Plan	Summary
25	27.31	353.35, Subd. 1	PERA-General	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
26	28.11	353.065, Subd. 8	PERA-P&F	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
27	28.4	354.42, Subd. 7	TRA	Resets the interest rate on erroneous deduction amounts consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
28	30.14	354.50, Subd. 2	TRA	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
29	30.20	354.51, Subd. 5	TRA	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
30	32.7	354.52, Subd. 4	TRA	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
31	32.20	354.72, Subd. 2	TRA	For an authorized service credit purchase, sets the interest rate consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
32	33.10	354A.093, Subd. 6	First class city teacher plans	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
33	33.18	354A.096	First class city teacher plans	Resets the interest rate on equivalent contributions for a leave made in one year consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
34	34.8	354A.108	DTRFA	For the purchase of salary credit during periods of reduced salary, resets interest consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
35	35.1	354A.38, Subd. 3	First class city teacher plans	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
36	35.9	354B.23, Subd. 5	MnSCU IRAP	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
37	35.25	354C.12, Subd. 2	MnSCU Supplemental	Resets the interest rate on past due unpaid deductions and contributions consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
38	36.6	356.195, Subd. 2	General strike credit provision	For the grant of service credit for a strike period, sets the interest consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
39	36.26	356.215, Subd. 1	Actuarial reporting law	Eliminates obsolete definitions of the actuarial value of assets.
40	41.24	356.44	General partial refund provision	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
41	42.10	356.50, Subd. 2	General wrongful discharge service credit purchase provision	For an authorized service credit purchase, sets the interest rate consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
42	42.33	356.551, Subd. 2	General service credit purchase amount provision	For an authorized service credit purchase, sets the interest rate consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
43	44.8	490.121, Subd. 4	Judges plan	Resets the interest rate on equivalent contributions for a leave made in one year consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
44	44.30	490.1211	Judges plan	Resets the interest rate on equivalent contributions for military service leave periods consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
45	46.4	490.124, Subd. 12	Judges plan	Resets the interest on a repayment of a refund consistent with the select-and-ultimate pre-retirement interest rate assumption change in Article 1.
46	46.18	Uncoded	Various plans	Requires a revision in all annuity reserve factors, optional annuity form factors, and actuarial equivalent early retirement factors before January 1, 2013, with revision reviewed by the consulting actuary retained by the Commission at the retirement plan cost.
47	46.33	Effective date	--	All sections are effective on July 1, 2012.

Attachments

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| A | SBI LCPR Handout 9-21-11.docx | SBI handout |
| B | Stinson LCPR Testimony 2011 both days.docx | Stinson testimony |
| C | Milliman 1/18/2012 Letter & attachments | Milliman cost estimate |