



**H.F. 2361**  
(Murphy, M., by request)

**S.F. 1978**  
(Betzold)

### **Executive Summary of Commission Staff Materials**

*Affected Pension Plan(s):* Various Retirement Plans; Accounting and Actuarial Reporting  
*Relevant Provisions of Law:* Minnesota Statutes, Sections 356.20 and 356.215  
*General Nature of Proposal:* Implements Recommended Reporting Changes to Accommodate Generally Accepted Accounting Principles  
*Date of Summary:* April 23, 2007

### **Specific Proposed Changes**

- Makes language clarifications and corrections in accounting and actuarial reporting.
- Eliminates outdated asset value and unfunded actuarial accrued liability reporting requirements.
- Revises actuarial value of assets.
- Provides vehicle for making various economic actuarial assumption changes.

### **Policy Issues Raised by the Proposed Legislation**

1. Appropriateness of language clarifications and corrections.
2. Appropriateness of the elimination of outdated asset value and unfunded actuarial accrued liability reporting requirements.
3. Necessity of revising the manner in which Minnesota Post Retirement Investment Fund assets are valued.
4. Unclear whether the proposed pension plan asset value definition revision actually accomplishes the intended result.
5. Proposed pension plan asset value definition revision may not appropriately apply when the Minnesota Post Retirement Investment Fund does not have a deficit.
6. Proposed asset valuation definition does not account for Minnesota Post Retirement Investment Fund deficit funding mechanism.
7. Appropriateness of the proposed asset valuation definition revision functioning to prejudice future Commission post-retirement adjustment reform options.
8. Continued appropriateness of using an actuarial value of assets rather than the market value of assets.
9. Appropriateness of an explicit change to 8.5 percent post-retirement interest rate assumption for the statewide retirement plans.

### **Potential Amendments**

- H2361-1A (substantive) adds accounting change references to the Minnesota Post Retirement Investment Fund financial reporting provision; clarifies that market-related asset valuation procedure applies to the Minnesota Post Retirement Investment Fund.
- H2361-2A (substantive) clarifies generally accepted accounting principle conformance, but retains current actuarial reporting procedure as supplemental information for setting program contribution rates.
- H2361-3A (substantive) shifts from actuarial value of assets to full market value of pension assets.
- H2361-4A (substantive) resets post-retirement interest rate actuarial assumption to conform with "de facto" assumptions.
- H2361-5A (technical) clarifies reference to Commission-retained actuary.
- H2361-6A (substantive) implements MSRS-General, PERA-General, and TRA economic actuarial assumption changes from 2000-2004 experience studies.
- H2361-7A (substantive) implements economic actuarial assumption changes for PERA-P&F and PERA-Correctional.
- H2361-8A (substantive) implements economic actuarial assumptions changes for the State Patrol Retirement Plan and MSRS-Correctional.



TO: Members of the Legislative Commission on Pensions and Retirement  
FROM: Lawrence A. Martin, Executive Director *JAM*  
RE: H.F. 2361 (Murphy, M., by request); S.F. 1978 (Betzold): Various Plans; Implementation of Various Generally Accepted Accounting Principles  
DATE: April 23, 2007

General Summary of H.F. 2361 (Murphy, M., by request); S.F. 1978 (Betzold)

H.F. 2361 (Murphy, M., by request); S.F. 1978 (Betzold) amends Minnesota Statutes, Sections 356.20 and 356.215, the public pension financial and actuarial reporting laws, by making the following changes:

1. Language Clarification and Corrections. The term "chief administrative official" is replaced by "chief administrative officer" and the term "public pension fund" is replaced by "public pension plan." Cross citations are corrected and language style and usage improvements are made (Sections 1, 2, and 3);
2. Outdated Asset Value and Unfunded Actuarial Liability Reporting Requirements Are Eliminated. The current annual financial reporting requirements with respect to the value of pension plan assets and to the unfunded actuarial liability under various liability measures that related to generally accepted accounting principles in force in 1984 and subsequently revised are eliminated (Section 1); and
3. Revised Actuarial Value of Assets. The actuarial value of assets is redefined as the market value of assets as of June 30, 2007, for the July 1, 2007, valuations, and the current actuarial value of assets definition, which is the market value of assets reduced by portions of the difference between the expected value of assets using the interest rate actuarial assumption, for up to four prior years, apparently including the assets of the Minnesota Post Retirement Investment Fund, and renames the term "current assets" as the "actuarial value of assets" (Section 2).

Background Information

Background information on relevant topics attached is attached:

- **Attachment A** contains background information on the actuarial reporting requirements of Minnesota public pension plans;
- **Attachment B** contains background information on the manner in which pension plan assets are valued for actuarial reporting purposes;
- **Attachment C** contains background information on the statewide retirement plan common post-retirement adjustment mechanism;
- **Attachment D** contains background information on the current difference between the market value of assets and the actuarial value of assets of the Minnesota Post Retirement Investment Fund;
- **Attachment E** contains background information on the discussion of the disclosure of Minnesota Post Retirement Investment Fund liabilities and assets in recent reports by the Minnesota Taxpayers Association and by the Program Evaluation Division of the Office of the Legislative Auditor; and
- **Attachment F** contains background information on the results of the 2000-2004 quadrennial experience studies 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), and the Teachers Retirement Association (TRA) and the subsequent recommendations for assumption changes.

Discussion and Analysis

H.F. 2361 (Murphy, M., by request); S.F. 1978 (Betzold) modifies the public pension plan financial and actuarial reporting laws, Minnesota Statutes, Sections 356.20 and 356.215, by eliminating pension liability and funding ratio reporting requirements that are no longer mandated by public pension plan generally



accepted accounting principles and by revising and updating the actuarial value of assets definition in the statutory actuarial valuation requirements.

The proposed legislation raises several pension and related public policy issues for potential Commission consideration and discussion, as follows:

1. Appropriateness of Language Clarifications and Corrections. The policy issue is the appropriateness of the proposed language clarifications and corrections contained in the proposed legislation. The replacement of the reference to “fund” with a reference to “plan” and of the reference to “chief administrative official” with a reference to “chief administrative officer” are more consistent with current drafting conventions and appear to be appropriate because they do not appear to have any substantive change in the provisions while making the provision more readable.
2. Appropriateness of the Elimination of Outdated Asset Value and Unfunded Actuarial Accrued Liability Reporting Requirements. The policy issue is the appropriateness of the proposed elimination of Minnesota Statutes, Section 356.20, Subdivision 4, Paragraphs (b) and (c), which represent generally accepted accounting principle requirements that were in force in 1984 and have been subsequently supplanted as the governing accounting principles. Minnesota Statutes, Section 356.20, governs the annual financial reporting requirements applicable to public pension plans in Minnesota. The financial reporting requirement has been in statute since 1965, when there were few or no public pension plan-specific financial reporting requirements in force. Since the development of the Financial Accounting Standards Board (FASB), primarily applicable to the non-governmental sector, and the development of its governmental sector counterpart, the Governmental Accounting Standards Board (GASB), the general practice in Minnesota has been to reflect the regulation that has been determined to be “generally accepted accounting principles.” While the retention of outdated reporting requirements does not cause any harm, unless the requirements function to supplant more recent reporting requirements, the retention decision should be made based on its merits rather than on inertia. It would appear that the continued existence of Minnesota Statutes, Section 356.20, Subdivision 4, Paragraphs (b) and (c), is a result of inaction by any interested public pension plan party, chiefly the accounting sections of the various retirement plans, the State Auditor’s Office, and the Legislative Auditor’s Office. It is unclear that the reporting items proposed for elimination have provided any additional valued information to public pension plan personnel, the Legislature, the Department of Finance, or any outside consumer of public pension information, which argues for the elimination of the items. The Commission should provide any interested party an opportunity to discuss the analytical value of the reporting information proposed for elimination.
3. Necessity of Revising the Manner in Which Minnesota Post Retirement Investment Fund Assets Are Valued. The policy issue is the extent that the proposed revision in the actuarial value of assets definition of Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (f), is necessary. The revision reflects the resolution assembled by David DeJonge, Assistant Director for Finance and Information Systems of the Public Employees Retirement Association (PERA), and by John Wicklund, Assistant Director for Administration of the Teachers Retirement Association (TRA), to address a problem of illegal noncompliance in the annual financial reporting of the statewide retirement plans with Governmental Accounting Standards Board (GASB) Statement No. 25 because the assets of the Minnesota Post Retirement Investment Fund are valued on a liability basis rather than on a market value-related basis. Since the predecessor to the predecessor of the current Minnesota Post Retirement Investment Fund was established in 1969, the value of the assets in the post-retirement adjustment mechanism and investment fund has been equated to the required reserves of the retirement benefits payable from the mechanism. Generally accepted accounting principles for public pension plans, to the extent that it existed at all in 1969, as reflect in Minnesota Statutes 1969, Section 356.20, carried pension plan assets at their book value. If the actuarial work of the various statewide retirement plans does not conform with GASB Statement No. 25, the consequence is that the audits by the Office of the Legislative Auditor will have a qualified opinion by the auditor indicating the nature of the noncompliance to put third party users of the information on notice of the deviation. That qualified audit opinion on the annual financial reporting of the retirement plans, which apparently does not carry into the financial reporting of the state as an employer and pension plan sponsor, could cause municipal board rating agencies to downgrade the state’s credit rating and could cause reduced demand for state bonds.
4. Unclear Whether the Proposed Pension Plan Asset Value Definition Revision Actually Accomplishes the Intended Result. The policy issue is whether or not the proposed revision in the pension plan asset valuation definition accomplishes the intended result. The current definition of the actuarial value of assets, Minnesota Statutes 2006, Section 356.215, Subdivision 1, Paragraph (f), does not apply to the equity in the Minnesota Post Retirement Investment Fund, which is valued as equal to the required

reserves of the statewide post-retirement adjustment mechanism, presumably because there is a special financial reporting provision in Minnesota Statutes, Section 11A.18, Subdivision 7, and nothing in the revised definition overrides Minnesota Statutes, Section 11A.18, Subdivision 7, or clarifies that the revised actuarial value of assets definition applies to the participation in the Minnesota Post Retirement Investment Fund as well as the assets in the statewide retirement plan not transferred to the Minnesota Post Retirement Investment Fund. If the Commission wishes to augment the language of the proposed legislation to make the legislative intent of the revision clear, **Amendment H2361-1A** adds additional language to clarify the application of the proposed legislation.

5. Proposed Pension Plan Asset Value Definition Revision May Not Appropriately Apply When the Minnesota Post Retirement Investment Fund Does Not Have a Deficit. The policy issue is whether or not the revision of the actuarial value of assets definition in the proposed legislation will appropriately apply to the Minnesota Post Retirement Investment Fund assets when the current deficit in the post-retirement adjustment mechanism is retired and the mechanism has assets in excess of the required reserves for benefits currently in force. When the Minnesota Post Retirement Investment Fund accrues investment returns in excess of 8.5 percent (the combination of the post-retirement interest rate actuarial assumption of five percent and the 3.5 percent potential Consumer Price Index-related annual post-retirement adjustment), if there is no deficit in the mechanism, that excess investment return amount is allocated into five equal amounts (one credited to the current year and the remaining four credited to the four subsequent years), and the current year portion of the current year's return and the current year portion of the previous four years' returns are totaled and the net result, if positive, funds an investment performance-related post-retirement adjustment (subject to a five percent annual maximum in combination with the CPI-based adjustment amount, separately capped at 2.5 percent annually) on the following January 1. While the revised actuarial value of assets definition, when fully implemented, recognizes varying fifths of current and prior years market value change compared to the expected asset value based on the pre-retirement interest rate actuarial assumption of 8.5 percent, that similar calculation is not identical to the Minnesota Post Retirement Investment Fund excess investment return crediting that produces benefit increases and additional liabilities. The end result, whenever the Minnesota Post Retirement Investment Fund funding situation again returns to a deficit-free situation, will be to overstate assets and the retirement plan funding ratio by recognizing some assets that fund benefit increases in the pipeline and future liabilities against then-recognized liabilities. The overfunded, over-recognition of assets as a funding resource, under-recognition of total liabilities situation that will occur if the definition revision is enacted and the Minnesota Post Retirement Investment Fund retires the existing \$4 billion deficit, a situation that does not occur under current law, will arguably misrepresent the total financial condition of the various statewide retirement plans.
6. Proposed Asset Valuation Definition Does Not Account for Minnesota Post Retirement Investment Fund Deficit Funding Mechanism. The policy issue is the appropriateness of the actuarial valuation of assets definition revision proposed in the bill since the revision does not recognize the current law Minnesota Post Retirement Investment Fund deficit funding mechanism. Separate from an alleged failure to comply with the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 25 for market value-related asset values, the recent report by the Program Evaluation Division on Post-Employment Benefits dealt largely with retirement plan issues rather than the developing policy area of "other post-employment benefits" (OPEBs), criticized the statewide retirement plans for improperly reflecting their actual financial condition because retirement plan actuarial work does not include Minnesota Post Retirement Investment Fund deficits, and recommended that the Legislature take additional steps to fund those Minnesota Post Retirement Investment Fund deficits after revising the post-retirement adjustment mechanism. Although the Legislative Auditor's report acknowledged that the Minnesota Post Retirement Investment Fund has a mechanism for retiring its current deficit by withholding any future investment performance post-retirement adjustments until the deficit is fully funded, the reporting promptly dismissed that statutory provision arguing for the creation of a different statewide retirement plan post-retirement adjustment mechanism. Minnesota Statutes, Section 11A.18, Subdivision 9, Paragraph (c), Clauses (5) to (9), provide that no post-retirement adjustment is payable from the Minnesota Post Retirement Investment Fund if the post-retirement adjustment mechanism has a deficit (i.e. market value of assets less the required reserves for benefits covered by the mechanism). The discontinuation of post-retirement adjustments when the Minnesota Post Retirement Investment Fund has a deficit provides the mechanism for retiring any deficit, which occurred in the early 1980s, when the Minnesota Post Retirement Investment Fund last had a deficit before 2000-2001. If the Minnesota Post Retirement Investment Fund deficit is recognized in the actuarial valuation and annual financial report of statewide pension plans, as proposed in the legislation, the post-retirement adjustment mechanism will be added to the unfunded actuarial accrued liability of the retirement plan and to the plan's amortization requirement to be met by ongoing contributions, without reflecting the statutory

mechanism for retiring the deficit. In addition to providing reliable information to outside investors and other parties, Minnesota public pension plan actuarial valuations are intended to assist Minnesota policymakers in setting and revising member and employer contribution rates to insure adequate plan funding. If the Minnesota Post Retirement Investment Fund deficit is simply lumped together with the retirement plan unfunded actuarial accrued liability, any alleged accuracy gained by bond raters and potential bond purchasers would be offset by the inaccuracy in funding measures for policymakers that also would result. **Amendment H2361-2A** attempts to disclose the Minnesota Post Retirement Investment Fund deficits or surpluses in the actuarial and financial work without losing the accuracy of the actuarial work in assisting policymakers to determine member and employer contribution rates by continuing to additionally require actuarial reporting in the same fashion as the current actuarial valuation work is performed.

7. Appropriateness of the Proposed Asset Valuation Definition Revision Functioning to Prejudice Future Commission Post-Retirement Adjustment Reform Options. The policy issue is the appropriateness of the proposed legislation redefining assets to include the participation in the Minnesota Post Retirement Investment Fund valued in a market-related manner when that change could have unintended effects on the ongoing deliberations over the appropriate manner in which to revise the current Minnesota Post Retirement Investment Fund. Currently, because of the sizable deficit in the Minnesota Post Retirement Investment Fund, no investment-related post-retirement adjustments are likely to be paid for years, perhaps decades, and adjustments are effectively limited to 2.5 percent annually, the limit on the Consumer Price Index-related post-retirement adjustments. Until the \$4 billion deficit in the Minnesota Post Retirement Investment Fund is retired, post-retirement adjustments will be significantly constrained and the burden of those constraints will be borne by the current retirees. If attempting to conform to some regulation promulgated by the accounting trade results in either the perception of or the reality of the conversion of the current Minnesota Post Retirement Investment Fund deficit into an unfunded actuarial accrued liability to be funded by either the employers, the active plan membership, or both, the proposed legislation could inappropriately advantage current retirees at the expense of current active members and future active members. While not wholly adequate to ward against this potential liability shift, **Amendment H2361-2A** would provide the Commission some basis to argue against the liability shift.
8. Continued Appropriateness of Using an Actuarial Value of Assets Rather Than the Market Value of Assets. The policy issue is whether or not it is better to value Minnesota public pension plan assets at an actuarial value of assets that approximates market value changes, the current law, or to value Minnesota public pension plan assets at their unadjusted market value. The assets of statewide and major local Minnesota retirement plans have never been valued at unadjusted market value. The current actuarial value of assets definition was enacted in 2000, at the recommendation of the consulting actuarial firm then retained by the Legislative Commission on Pensions and Retirement, Milliman & Robertson, which argued that the recommended actuarial value of assets formula would limit the volatility-related shifts in asset values and would insulate the State Board of Investment and other retirement fund investment authorities from actuarial concerns in undertaking investment transactions. The market value of assets was the second choice of the consulting actuarial firm if the Commission did not endorse the actuarial value of assets definition. The Commission staff observed in 2000 that the historic pattern of volatility in the equity markets has been over a period shorter than one year and over periods longer than five or seven years, which both fall outside the current actuarial value of assets formula. No actual evidence of actuarial concerns in investment transactions was ever represented on the part of retirement plan investment authorities that the current actuarial value of assets formula allegedly attempts to relieve. With the possible exception of the Minneapolis Employees Retirement Fund (MERF) among the statewide and major local retirement plans, no plan actually has its contributions in the following year directly affected by a change in asset values because all other plans have statutory contribution rates requiring legislative action to change. The use of the actuarial value of assets confuses rather than clarifies pension funding, since in up markets, interested parties all know the market value of plan assets and use those higher market values to argue for benefit modifications and rely on the actuarial value of assets in down markets to minimize policymakers' concerns, even when those concerns are well-founded. If the Commission wishes to shift to an unadjusted market value for retirement plan assets, **Amendment H2361-3A** would make that change.
9. Appropriateness of an Explicit Change to 8.5 Percent Post-Retirement Interest Rate Assumption for the Statewide Retirement Plans. The policy issue is the appropriateness of updating the post-retirement interest rate assumption for the various statewide retirement plans and resetting the post-retirement actuarial rate actuarial assumptions, both pre-retirement and post-retirement, in the actuarial valuations of the statewide retirement plans is 8.5 percent, although the interest rate actuarial assumptions for the statewide retirement plans in Minnesota Statutes, Section 356.215, Subdivision 8,

sets a 6.0 percent post-retirement interest rate actuarial assumption. The combination of a 6.0 percent post-retirement interest rate actuarial assumption and the addition of the maximum Consumer Price Index-related post-retirement adjustment amount under Minnesota Statutes, Section 11A.18, Subdivision 8, Paragraph (b), produces an effective post-retirement interest rate actuarial assumption of 8.5 percent. If clarity for both outside observers and policymakers is the desired result of the statute governing public retirement plan actuarial reporting and financial reporting, having the actual post-retirement interest rate actuarial assumption conform with the effective rate would be appropriate.

**Amendment H2361-4A** resets the post-retirement interest rate actuarial assumptions to conform with the effective post-retirement interest rate assumptions actually in force, with the necessary conforming changes.

#### Technical Amendment

**Amendment H2361-5A** corrects an obsolete reference the former practice of an actuary retained by the Legislative Commission on Pensions and Retirement.

#### Additional Substantive Amendment Requested by MSRS and PERA

**Amendment H2361-6A** is a substantive amendment requested for addition to this proposed legislation by David Bergstrom, Executive Director of the Minnesota State Retirement System (MSRS), and Mary M. Vanek, Executive Director of the Public Employees Retirement Association (PERA), in late March 2007. Amendment H2361-6A amends Minnesota Statutes, Section 356.215, Subdivisions 8 and 11, the provision of the actuarial reporting law governing interest and salary assumptions and amortization contributions, to implement the recommendations for statutory actuarial assumption changes arising out of the 2000-2004 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), which are changes in the salary increase assumptions and the payroll growth assumptions. **Attachment G** summarizes the 2000-2004 experience study results and recommendations.

The amendment raises several policy issues, as follows:

1. Process Concern: Appropriateness of Making Assumption Changes by Amendment, Without Bill Introduction, and Without Notice. The policy issue is a process concern about the appropriateness of making several economic actuarial assumption changes through an amendment to another piece of proposed legislation, without the introduction of the proposed changes as a separate bill and without the notice that a separate introduction and hearing scheduling would provide. While there is usually considerable deference to actuarial consultants with respect to the selection of actuarial assumptions, a change in economic actuarial assumptions is a very significant potential change and should be done in a manner that emphasizes the best features of the full legislative process, not an amendment taken up late in the legislative process without any significant advance notice.
2. Unclear Rationale for the Delay in Resolving Issues Related to Economic Actuarial Assumptions. The policy issue is an unclear rationale for a long delay in resolving issues related to the various economic actuarial assumptions. The attached summaries of recommended actuarial assumption changes contained in The Segal Company quadrennial experience studies indicate a need to conduct a broader study of the various investment, salary, and payroll growth topics with input from the State Board of Investment. That study apparently was prepared in advance of a January 16, 2007, conference telephone call between Howard Bicker, Executive Director of the State Board of Investment, the executive directors and chief financial staff of the Minnesota State Retirement System (MSRS), the Public Employees Retirement Association (PERA), and the Teachers Retirement Association (TRA), two representatives of Buck Consultants, a consulting actuarial firm retained by TRA, two representatives of Mercer, a consulting actuarial firm retained by MSRS and PERA, and five personnel from The Segal Company, the consulting actuary firm retained jointly by the statewide and major local retirement plans. The State Board of Investment study has not been provided to the Legislative Commission on Pensions and Retirement and neither the study nor a summary of the study was included in the materials provided to the State Board of Investment for its December 6, 2006, or March 20, 2007, meetings. Based on the February 7, 2007, documentation of the actuarial assumptions conference call prepared by The Segal Company staff, the economic assumption recommendations ultimately reached a consensus on assumption recommendations contained in Amendment H2361-6A. In the Spring 2005 MSRS, PERA, and TRA experience studies, The Segal Company indicated that the current interest rate actuarial assumption was on the optimistic side of average nationwide, that a thorough review of long-term capital market developments is needed, that the economic actuarial assumptions need to be developed based on a "building block" approach required by actuarial standards of practice, and that payroll growth assumptions be reviewed in light of

the other concerns. While the Segal experience studies appear to contemplate a thorough review process, the actual recommendations appear to have been delayed without apparent benefits, resolved in an unclear process, with minimal outside or additional consultations, without advance notice to interested parties about the decision-making points, and without any documentation that would allow the Commission to defer to the conclusion based on a thorough review of the evidence and rationale developed and presented. If the Commission is concerned about this apparent example of policymaking in a vacuum, the Commission should consider taking more testimony about the process used to reach the recommendations and the evidence assembled to support those recommendations before implementing those recommendations.

3. Inadequacies in Spring 2006 Experience Studies and January 2007 Actuarial Assumption Conference Call. The policy issue is the appropriateness of Commission consideration at this time of the recommended actuarial assumption changes in light of problems in or inadequacies of the experience studies completed in Spring 2006, and of the January 2007 conference call conclusion of the assumption change recommendation process. There are five problems in or inadequacies of the experience studies observed by the Commission staff, which are:
  - a. Reduced Presentation of Data. The 2000-2004 experience studies present annual actuarial experience information on most demographic assumptions with ratios only on an "average per year" basis. The Commission's Standards For Actuarial work, last modified by Commission action on August 23, 2001, requires the calculation of actual to expected events ratios (Standard V.C., (1)(d)) and requires the results to be reported by each year (Standard V.D., (6)). For the salary increase assumptions, the 2000-2004 experience study did not include any year-by-year breakdown of the experience study, while the 1996-2000 experience study presented both annual and full five-year period results. While past experience studies have presented ratios by age or service increments for each year, the 2000-2004 experience study omitted the year specific presentation of ratios for demographic assumptions, producing only average ratio information. Attached is a comparison of the post-retirement mortality assumption experience results for the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General) for the 1996-2000 experience study (pages 1996-2000 (1) to (5)) and for the 2000-2004 experience study (pages 2000-2004 (1) to (6));
  - b. Unexplained MSRS-General Post-Retirement Mortality Assumption Data Disclaimer. The 2000-2004 experience study of MSRS-General indicates that the actual death counts used in the study are not reconciled with plan data for retiree mortality experience, but nowhere is the nature of the disparity or the potential deviation explained in the study;
  - c. Unclear "Fit" For the Recommended Salary Scale and Payroll Increase Assumption Changes. The 2000-2004 experience study recommendations on demographic actuarial assumption changes typically include a presentation of the ratio between actual experience and the recommended assumption change as a demonstration of the "fit" of the assumption change. Because recommendations on the salary scale and payroll increase assumptions were deferred for future study and that future deliberation was conducted in a telephone conference call without any extensive documentation, there is no specific information on the actual to expected ratio "fit" of the salary scale and payroll increase assumption changes;
  - d. No Data or Limited Data on Marriage, Beneficiary Age, and Optional Annuity Form Assumption Experience. The 2000-2004 experience study made findings and recommendations about the percent of active members who were married, the presence and age of a potential beneficiary, and the optional annuity form selection, but for the percent married assumption, no data was provided that supported the recommendation that the assumption remains reasonable, for the presence and age of beneficiary assumption, average experience data was present, but the data did not fully support the "therefore...remains reasonable," and for the optional annuity form assumptions, no data was provided that supported the recommendation that the assumption remains reasonable;
  - e. No Review of the Combined Service Annuity Utilization Assumption. As part of the recommendations from the 1996-2000 experience studies, an actuarial assumption related to the utilization of the Combined Service Annuity portability provision was added to the various actuarial valuations, but no review of that assumption was included in the 2000-2004 experience studies. Because of the difficulties in identifying all of the required data, the Combined Service Annuity utilization assumption is a "loading" assumption, where liabilities are increased by a specified percentage to approximate the portability mechanism usage. Without a periodic review, the loose nature of a "loading" assumption can lead to a very inaccurate assessment of the impact of the Combined Service Annuity.

4. Difficulties Arising From a Lack of Any Presentations by the Consulting Actuarial Firm of Actuarial Valuations or Experience Studies. Since 2004, when the responsibility for retaining the consulting actuarial firm utilized to prepare the "official" actuarial valuations of the various statewide and major local retirement plans and to prepare the quadrennial 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) was shifted from the Legislative Commission on Pensions and Retirement to the various plan administrations acting jointly, the Commission has had no presentations from the consulting actuarial firm. A formal presentation of the results of the experience studies and the recommendations of the actuary for actuarial assumption changes in advance of processing those assumption changes would be advantageous for the Commission.
5. Lack of Clarity About Necessary Demographic Assumption Changes for Remaining Statewide or Major Local Retirement Plans. The mandated 2000-2004 experience studies, apparently completed in January 2007, covered the three largest statewide retirement plans, 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), but provided no clear indication of the assumption changes that should also be made in other retirement plans. Recent special experience studies were conducted for demographic assumptions of the State Patrol Retirement Plan, the Correctional Employees Retirement Plan of the Minnesota State Retirement System (MSRS-Correctional), and the Public Employees Police and Fire Plan (PERA-P&F), but there may be logical extensions or adaptations of the inflation, salary increase, or payroll growth assumptions for other plans. Following the 2000 experience studies, the consulting actuary retained by the Commission did make economic assumption adaptation/extension recommendations.

**Amendment H2351-7A** contains economic actuarial assumption changes suggested by Mercer Human Resource Consulting, the actuarial firm retained by PERA, for PERA-P&F, based in part on the 1997-2001 special experience study for that retirement plan, and for the Local Government Correctional Service Retirement Plan (PERA-Correctional), based on recent actuarial valuation results. As of March 30, 2007, PERA had not yet contacted the jointly retained actuary, The Segal Company, for its review of these additional assumption change recommendations.

**Amendment H2351-8A** contains economic actuarial assumption changes suggested by Mercer Human Resource Consulting, the actuarial firm retained by the MSRS for the State Patrol Retirement Plan and MSRS-Correctional. The Commission staff is not aware whether MSRS has contacted The Segal Company for its review of these additional assumption change recommendations.

6. Lack of Actuarial Impact Assessments of Assumption Change Recommendations. Generally, in combination with actuarial assumption change recommendations, the consulting actuary provides an indication of the likely impact on the actuarial valuation results. That impact assessment allows the Commission to determine whether or not contribution support rates need be adjusted as a consequence and, if an adjustment is needed, how the additional contribution requirement is to be allocated between employees and employing units. For the three largest statewide retirement plans, contribution increases were enacted in 2005 and 2006, with member and employer contribution increase either having been recently implemented or in the process of being phased in. From the documents provided, the Commission staff has the sense that some actuarial impact assessment work was prepared for the assumption changes, but that actuarial work, if it exists, has not been forwarded to the Commission. Without actuarial impact assessment work, any Commission action on future member and employer contribution rate increases would presumably wait until after the July 1, 2007, actuarial valuation.

#### Motion Approving Various Demographic Actuarial Assumption Charges

Under Minnesota Statutes, Section 356.215, Subdivision 18, demographic actuarial assumption changes must be approved by the Legislative Commission on Pensions and Retirement before they are effective for the preparation of subsequent actuarial valuations. The demographic actuarial assumption changes are summarized in the attachments and included in the attached approval motion.

Historically, the Legislative Commission on Pensions and Retirement has reviewed the recommended actuarial assumption changes with the consulting actuary who assembled them and took action on the recommendations once it has gained a sufficient sense of the experiential basis for each assumption change.

## Attachment A

### Background Information on Minnesota Public Pension Plan Actuarial Reporting Requirements

1. Actuarial Reporting Requirements. With the creation of defined benefit public pension plan liabilities, there arises a need to provide financing to match the liabilities and to create a trust fund for the accumulated assets. The method of financing depends primarily on the nature of the benefit plan as either a defined contribution plan or a defined benefit plan and the liability which is undertaken as a consequence. Since the obligation undertaken with a defined benefit plan is to provide a benefit of a predetermined amount at and after the time of retirement, the financing method will be more complex and will allow more variations. There are a number of possible financing budget estimation methods which have been developed by actuaries which can be utilized.

The actual or ultimate cost of a pension plan is the total amount of any retirement annuities, disability benefits and survivor benefits plus the total amount of any administrative costs paid. The actual or ultimate cost will result no matter what method of financing is employed to fund pension benefits. The financing or actuarial funding method merely separates out the portion of the actual or ultimate cost that will be paid from investment returns from the portion to be funded from periodic contributions and affects the timing of the financing and the amount of the financing burden which will be borne by the pension plan employer or employers.

Virtually every public pension plan is required to make annual financial and actuarial reports under Minnesota Statutes, Sections 356.20 and 356.215. The Standards for Actuarial Work, issued by the Commission, specify the detailed contents and format requirements for both the actuarial valuation reports and the experience studies. The public pension plans which are included in this requirement are the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), the Correctional State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-Correctional), the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General), the Public Employees Police and Fire Retirement Plan (PERA-P&F), the Teachers Retirement Association (TRA), the State Patrol Retirement Plan, the Minneapolis Teachers Retirement Fund Association (MTRFA), the St. Paul Teachers Retirement Fund Association (SPTRFA), the Duluth Teachers Retirement Fund Association (DTRFA), the Minneapolis Employees Retirement Fund (MERF), the University of Minnesota Faculty Retirement Plan and Supplemental Retirement Plan, the Judges Retirement Plan, and the various local police and firefighters relief associations.

The annual actuarial valuation is required to include the determination of normal cost as a percentage of salary and accrued liability of the fund calculated according to the entry age normal cost method, with a prescribed pre- and post-retirement interest assumption, a prescribed salary assumption, and other assumptions as to mortality, disability, retirement, and withdrawal which are appropriate to the experience of the plan. A statement of administrative cost of the fund as a gross amount and as a percent of payroll is required. The actuary must also present an actuarial balance sheet, setting forth the accrued assets, the accrued liabilities (reserves for active members, deferred annuitants, inactive members without vested rights, and annuitants) and the unfunded actuarial accrued liability. The valuation is also to include a calculation of the additional rate of support required to amortize the unfunded accrued liability by the end of the applicable target full funding year. The actuary is required to provide an analysis of the increase or decrease in the unfunded accrued liability from changes in benefits, changes in actuarial assumptions, gains and losses from actual deviations from actuarial assumptions, amortization contribution, and changes in membership. An exhibit setting forth total active membership, additions and separations from active service during the year, total benefit recipients, additions to and separations from the annuity payroll, and a breakdown of benefit recipients into service annuitants, disabilitants, surviving spouses and children, and deferred annuitants is also required.

The quadrennial experience study periodically prepared for MSRS-General, PERA-General, and TRA is required to furnish experience data and an actuarial analysis which substantiates the actuarial assumptions upon which the annual valuations are based. The quadrennial experience study is required to contain an actuarial analysis of the experience of the largest retirement plans and a comparison of that plan experience with the actuarial assumptions in force for the most recent annual actuarial experience.

The purpose of the quadrennial experience studies is to provide the Commission and the retirement plan administrations with a periodic opportunity to review the accuracy of the current actuarial assumptions of the three largest retirement plans, compared to the experience for the most recent period and to revise those actuarial assumptions based on the recommendation of the retained

consulting actuary and on input from plan administrators, their actuarial consultants, and others. The actuarial valuation process, as corrected or refined by the quadrennial experience process, is intended to provide policymakers and others with an accurate picture of the funded condition and financial requirements of a public pension plan and the process is not aided if it relies on incorrect or inadequate assumptions. If a trend line is established in recent experience, that trend line should be reflected in a plan's actuarial assumptions, even if those assumptions make the financing position of the plan appear worse than it would under different assumptions.

Minnesota public pension plan actuarial assumptions are specified in part in statute (the economic assumptions, interest/investment return, individual salary increase, and payroll growth) and are determined in part by other parties, with Commission approval (the balance of all actuarial assumptions, generally, the demographic assumptions). Economic assumptions are required to project the amount of benefits that will be payable. Demographic assumptions are required to project when benefits will be payable. Demographic assumptions are used to project the development of the population covered by the pension plan and hence when the benefits to be provided will be paid. The demographic assumptions project when a member is likely to progress between the various categories of membership (active, deferred, or retired) and how long the person stays in each category. The types of economic assumptions used to measure obligations under a defined benefit pension plan include the following:

- (i) inflation;
- (ii) investment return (sometimes referred to as the valuation interest rate);
- (iii) compensation progression schedule; and
- (iv) other economic factors (e.g., Social Security, cost-of-living adjustments, growth of individual account balances, and variable conversion factors).

The types of demographic assumptions used to measure pension obligations include, but are not necessarily limited to, the following:

- (i) retirement;
- (ii) mortality;
- (iii) termination of employment;
- (iv) disability and disability recovery;
- (v) election of optional forms of benefits; and
- (vi) other assumptions, such as administrative expenses; household composition; marriage, divorce, and remarriage; open group assumptions; transfers; hours worked; and assumptions regarding missing or incomplete data.

The actuarial assumption selection process should result in actuarial assumptions that are reasonable in light of the particular characteristics of the defined benefit plan that is the subject of the measurement. A reasonable actuarial assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. For any given measurement, two or more reasonable actuarial assumptions may be identified for the same contingency.

2. Historical Development of Actuarial Reporting Requirements. Since the creation of the Legislative Commission on Pensions and Retirement as an interim commission in 1955, data has been required to be provided to the State by the various public pension plans in the State, as follows:
  - Laws 1957, Special Session, Chapter 11. The initial actuarial reporting law enacted by the Minnesota Legislature was Laws 1957, Special Session, Chapter 11. The 1957 actuarial reporting law was an uncoded temporary law that was applicable only to actuarial valuations prepared as of January 1, 1958. No prior generally applicable law required specific actuarial reporting to the Legislature or to any other public office or official. The 1957 actuarial reporting law required census tabulations of active members and benefit recipients, an actuarial balance sheet disclosing assets, liabilities and the actuarial full funding deficit, a statement of actuarial assumptions, an indication of the normal support rate for currently accruing liabilities and an indication of the 1997 target date amortization requirement. The 1957 actuarial reporting law was unspecific on the manner in which the actuarial calculation was to be prepared, leading to disputes when some funds prepared valuations on a basis other than the entry age normal actuarial method. The 1957 actuarial reporting law was broadly applicable to all statewide general and public safety pension plans, all local general employee plans, all local police relief associations and all local salaried firefighters relief associations. Problems with the 1957 actuarial reporting law led the Commission to refine the actuarial reporting requirements and procedures and to recommend a general ongoing actuarial reporting law in the years between 1958 and 1965.

- Laws 1965, Chapters 359 and 751. Laws 1965, Chapter 359, was the initial codification of the general employee pension plan actuarial reporting law. Laws 1965, Chapter 751, was an uncoded temporary law applicable to local police and paid firefighters relief association actuarial valuations prepared as of December 31, 1964. The general employee pension plan actuarial reporting law required an indication of the level normal cost, an actuarial balance sheet disclosing assets, accrued liabilities and unfunded accrued liability as well as specific required reserve figures and an indication of the 1997 target date amortization requirement. The general employee pension plan actuarial reporting law required that the actuarial valuation normal cost and accrued liabilities to be prepared using the Entry Age Normal Cost (Level Normal Cost) Method, that the actuarial method be used to value all aspects of the benefit plan and known future benefit changes, that the actuarial valuation be prepared on the basis of a three percent interest assumption and other appropriate assumptions and that assets not include any present value of future amortization contributions. The general employee pension plan actuarial reporting law required annual actuarial valuations for the State Employees Retirement Fund, the Public Employees Retirement Fund, and the State Police Officers Retirement Fund. The general employee pension plan actuarial reporting law also required the preparation of an experience study validating the actuarial assumptions used in the valuation. The local police and paid fire actuarial reporting law was based on the 1957 actuarial reporting law with the additional clarification of a three percent interest rate assumption, the requirement of normal cost and accrued liabilities calculated on the basis of the entry age normal cost method and the reporting of the amount for the amortization of the unfunded accrued liability by the 1997 target date. The local police and paid fire actuarial reporting law was applicable to all police and paid firefighters relief associations.
- Laws 1967, Chapter 729. Laws 1967, Chapter 729, was a revision in the 1965 local police and paid fire actuarial reporting law. The 1967 local police and paid fire actuarial reporting law was a coded general statute requiring actuarial valuations as of December 31, 1967, and each four years thereafter. It was also made applicable volunteer firefighters relief associations and very small active membership police and paid firefighters relief associations. A three percent salary rate assumption was added. A 2007 target date amortization requirement replaced the prior 1997 target date amortization requirement for police and paid fire plans, leaving the 1997 requirement for volunteer and smaller active membership police and paid fire relief associations. An addition of a requirement to the calculated normal cost for amortizing net actuarial experience gains or losses was also added.
- Laws 1969, Chapter 289. Laws 1969, Chapter 289, revised the 1965 general employee pension plan actuarial reporting law by making the requirement applicable to the Minneapolis Employees Retirement Fund and to the three first class city teacher retirement fund associations. It also provided for an interest rate assumption to 3.5 percent as well as 3.0 percent for comparison purposes and added a salary assumption of 3.5 percent for funds with a final salary based benefit plan.
- Laws 1973, Chapter 653, Section 45. Laws 1973, Chapter 653, Section 45, modified the general employee pension plan actuarial reporting law by increasing the interest assumptions from 3.5 percent to 5 percent.
- Laws 1975, Chapter 192. Laws 1975, Chapter 192, recodified the general employee pension plan actuarial reporting law, previously coded as Minnesota Statutes 1974, Sections 356.21, 356.211, and 356.212, as Minnesota Statutes, Section 356.215.
- Laws 1978, Chapter 563, Sections 9, 10, 11, and 31. Laws 1978, Chapter 563, Sections 9 to 11 and 31, repealed the separate local police and fire relief association actuarial reporting law, Minnesota Statutes 1976, Sections 69.71 to 69.76, and required the local police and fire relief associations to report under the general employee pension plan actuarial reporting law with specific adaptations, coded as Minnesota Statutes, Section 356.216. It also amended the actuarial reporting law by requiring specific reporting of entry age and retirement age assumptions and the provision of a summary of the benefit plan provisions on which the actuarial valuation is based.
- Laws 1979, Chapter 184. Laws 1979, Chapter 184, modified the actuarial reporting law by replacing the 1997 amortization target date with a 2009 amortization target date and establishing a procedure for extending that target date in the event of substantial unfunded actuarial accrued liabilities resulting from benefit increases, actuarial cost method changes or actuarial assumption changes.

- Laws 1984, Chapter 564, Section 43. Laws 1984, Chapter 564, Sections 43, substantially modified the actuarial reporting law. Actuarial valuations are required to comply with the Standards for Actuarial Work adopted by the Commission. The interest rate assumption was modified, with a post-retirement interest rate of five percent and a pre-retirement interest rate of eight percent for the major, statewide plans. The actuarial balance sheet requirement was also substantially modified, and was expanded to include reporting of current and expected future benefit obligations, current and expected future assets and current and expected future unfunded liabilities. The amortization contribution requirement was also modified, with a change from a level dollar annual amortization procedure to a level percentage of future covered payroll amortization procedure for the major, statewide and local general employee plans other than MERF.
- Laws 1987, Chapter 259, Section 55. Laws 1987, Chapter 259, Section 55, revised the language and style of the actuarial reporting provision, specified the particular interest and salary increase actuarial assumptions for the legislators retirement plan and elected state officers retirement plan, set the amortization target date for the Minneapolis Employees Retirement Fund (MERF) at 2017 and exempted MERF from the process for automatically revising the target date upon benefit increases or assumption changes, and required approval by the Legislative Commission on Pensions and Retirement for any demographic actuarial assumption changes.
- Laws 1989, Chapter 319, Article 13, Sections 90 and 91. Laws 1989, Chapter 319, Article 13, Sections 90 and 91, increased the interest rate actuarial assumption from 8.0 percent to 8.5 percent for all statewide and major local retirement plans other than the Minneapolis Employees Retirement Fund (MERF) and extended the amortization full funding target date from 2009 to 2020 for all statewide and major local retirement plans other than MERF.
- Laws 1991, Chapter 269, Article 3, Sections 3 to 19. Laws 1991, Chapter 269, Article 3, Sections 3 to 19, updated the actuarial valuation reporting requirements to accommodate governmental pension plan generally accepted accounting changes, required actuarial valuations or experience studies prepared by an actuary other than the actuary retained by the Legislative Commission on Pensions and Retirement to submit the document to the Commission, and modified some of the services performed by the Commission-retained actuary to reduce the cost of retirement plan-reimbursed actuarial services compensation.
- Laws 1991, Chapter 345, Article 4, Sections 3 and 4. Laws 1991, Chapter 345, Article 4, Sections 3 and 4, reset the interest and salary actuarial assumptions for the Minneapolis Employees Retirement Fund (MERF) at six percent and four percent respectively and extended the MERF amortization target date from 2017 to 2020.
- Laws 1993, Chapter 336, Article 4, Section 1. Laws 1993, Chapter 336, Article 4, Section 1, defines administrative expenses for purposes of inclusion of administrative expenses as part of actuarial cost calculations.
- Laws 1993, Chapter 352, Section 7. Laws 1993, Chapter 352, Section 7, provided, for the Public Employees Police and Fire Plan (PERA-P&F), for the reverse amortization of the amount of assets in excess of the plan's actuarial accrued liability.
- Laws 1995, Chapter 141, Article 3, Sections 14 and 15. Laws 1995, Chapter 141, Article 3, Sections 14 and 15, implemented an age-related salary increase assumption 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), and the Teachers Retirement Association (TRA), and set fund-specific payroll growth actuarial assumption rates for MSRS-General, PERA-General, and TRA.
- Laws 1997, Chapter 233, Article 1, Sections 2 and 57. Laws 1997, Chapter 233, Article 1, Sections 2 and 57, required, two years after the quadrennial experience studies, that the actuary retained by the Legislative Commission on Pensions and Retirement conduct quadrennial projection valuations for MSRS-General, PERA-General, TRA, and for any other plans for which the Commission determines a study of this type would be beneficial. These quadrennial projection valuations were required to be conducted in consultation with the Commission's executive director, the retirement fund directors, the State Economist, the State Demographer, the Commissioner of Finance, and the Commissioner of Employee Relations. The results were required to be reported in the same manner as the quadrennial experience studies. The quadrennial projection valuation cost was required to be paid by retirement plans, with the costs

allocated among all plans for which the actuary retained by the Commission performs annual actuarial valuations.

- Laws 1997, Chapter 241, Article 4, Section 1. Laws 1997, Chapter 241, Article 4, Section 1, revised the salary increase assumption for the State Patrol Retirement Plan, the Correctional Employees Retirement Plan of the Minnesota State Retirement System (MSRS-Correctional), Public Employees Police and Fire Plan (PERA-P&F), and the first class city teacher retirement plans, and added a payroll growth assumption to the MSRS-General, MSRS-Correctional, State Patrol, Legislators, Elected State Officers, and Judges Plans; to PERA-General and PERA-P&F; to TRA; and to the first class city teacher retirement plans.
- Laws 1998, Chapter 390, Article 8, Section 2. Laws 1998, Chapter 390, Article 8, Section 2, changed the requirement for a quadrennial projection valuation from the three major statewide retirement plans to one of the statewide or major local retirement plans.
- Laws 1999, Chapter 222, Article 4, Section 14. Laws 1999, Chapter 222, Article 4, Section 14, set the calculated overfunding credit for the Public Employees Police and Fire Plan (PERA-P&F) if the plan has assets in excess of its actuarial accrued liability at the 30-year level percentage of covered pay amortization requirement applicable if the excess assets were an unfunded liability and reset as a new 30-year period for each valuation year.
- Laws 2000, Chapter 461, Article 1. Laws 2000, Chapter 461, Article 1, again substantially modified the actuarial reporting law. Salary assumptions and post-retirement interest rate assumptions were reset, and the actuarial value of assets also was changed to an approach that approaches, but smoothes, market values.
- First Special Session Laws 2001, Chapter 10, Article 11, Section 18. First Special Session Laws 2001, Chapter 10, Article 11, Section 18, exempted the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General) from the automatic amortization target date resetting provisions of Minnesota Statutes, Section 356.215, and sets a 2031 amortization target date for PERA-General.
- Laws 2003, Chapter 392, Articles 9 and 11. Laws 2003, Chapter 392, Articles 9 and 11, the select and ultimate salary increase assumptions (i.e., rates varying based on both age and length of service) for the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General), the Teachers Retirement Association (TRA), the Duluth Teachers Retirement Fund Association (DTRFA), the Minneapolis Teachers Retirement Fund Association (MTRFA) and the St. Paul Teachers Retirement Fund Association (SPTRFA) were revised based on the 2000 experience studies. The structure of Minnesota Statutes, Section 356.215, also was reorganized and revised as part of a recodification of Minnesota Statutes, Chapter 356.
- Laws 2004, Chapter 223, Section 7. Laws 2004, Chapter 223, Section 7, replaced a single contracting consulting actuary retained by the Legislative Commission on Pensions and Retirement to prepare the annual actuarial valuations of the various statewide and major local retirement plans with a single contracting consulting actuary retained jointly by the administrators of the seven retirement systems with Commission ratification.
- First Special Session Laws 2005, Chapter 8, Article 11, Section 2. First Special Session Laws 2005, Chapter 8, Article 11, Section 2, set the interest and salary actuarial assumptions for the Bloomington Fire Department Relief Association at six percent and four percent respectively.

## Attachment B

### Background Information on the Current Actuarial Value of Assets Determination Procedure

Since the actuarial valuation of assets determination procedure was initially codified in 1965, with the initial codification of public pension plan financial and actuarial reporting requirements, Minnesota public pension plans have utilized two different ways to establish the value of assets for determining the existence of and the size of unfunded actuarial accrued liabilities.

From 1965 to 1983, Minnesota Statutes, Sections 356.20 and 356.215, required that pension plan assets at book value be used in making a comparison of plan assets with plan liabilities. Book value is the generally initial purchase price of the investment security or other marketable asset. For bonds (debt instruments), the investment value was at amortized cost. For stocks (equity investments), the investment value was at cost. For equipment, the investment was at cost less any accrued depreciation. For real estate, the statute was unclear.

In 1984, at the initiation of the Department of Finance, among various actuarial assumption and actuarial method changes, the actuarial value of assets determination procedure changed. The method, still current, defines the actuarial value of assets as the cost value of investments plus one-third of the difference between the cost value of investments and the market value of investments. The proposal for the actuarial value of assets determination procedure change was generated external to the Commission, and the rationale for the change is not well reflected in Commission staff files for Laws 1984, Chapter 564. The change, however, clearly was an attempt to capture some of the stock and bond market appreciation that had occurred in the late 1970s and early 1980s and to have the actuarial value of assets more closely reflect market value than the prior book value definition of the actuarial value of assets.

The following compares the pre-1984 asset valuation determination procedure, the post-1984/pre-2000 asset valuation determination procedure and the current asset valuation determination procedure for a representative statewide retirement plan, the Teachers Retirement Association (TRA), and a representative local retirement plan, the St. Paul Teachers Retirement Fund Association (SPTRFA), for the fiscal year ending on June 30, 2006:

#### Teachers Retirement Association (TRA)

	Pre-1984 Method	Post-1984/Pre-2000 Method	Current Method																																																												
Summary	Book or cost value of investment securities.	Cost value of investment securities plus one-third of the difference between the cost value and the market value of the investment securities.	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets at the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year).																																																												
Result	\$19,649,139,143	\$19,694,665,406	\$19,035,611,839																																																												
Calculation	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Book Value</td> <td style="text-align: right;">\$19,649,139,143</td> </tr> </table>	Book Value	\$19,649,139,143	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Market Value</td> <td style="text-align: right;">\$19,785,671,584</td> </tr> <tr> <td>Book Value</td> <td style="text-align: right;"><u>\$19,649,139,143</u></td> </tr> <tr> <td>Difference</td> <td style="text-align: right;">\$136,532,441</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Difference</td> <td style="text-align: right;">\$136,532,441</td> </tr> <tr> <td>One-Third</td> <td style="text-align: right;">x .3333</td> </tr> <tr> <td>Market Adjust.</td> <td style="text-align: right;"><u>\$45,506,263</u></td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Book Value</td> <td style="text-align: right;">\$19,649,159,143</td> </tr> <tr> <td>Market Adjust</td> <td style="text-align: right;"><u>\$45,506,263</u></td> </tr> <tr> <td>Actuar. Value</td> <td style="text-align: right;">\$19,694,665,406</td> </tr> </table>	Market Value	\$19,785,671,584	Book Value	<u>\$19,649,139,143</u>	Difference	\$136,532,441	 		Difference	\$136,532,441	One-Third	x .3333	Market Adjust.	<u>\$45,506,263</u>	 		Book Value	\$19,649,159,143	Market Adjust	<u>\$45,506,263</u>	Actuar. Value	\$19,694,665,406	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">1. Market value of assets available for benefits</td> <td style="text-align: right;">\$19,785,671,584</td> </tr> <tr> <td></td> <td style="text-align: center;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="text-align: center;">Original Amount</td> <td style="text-align: center;">% Not Recognized</td> <td style="width: 20%;"></td> </tr> </table> </td> </tr> <tr> <td>2. Calculation of unrecognized return</td> <td></td> </tr> <tr> <td>(a) Year ended 6/30/06</td> <td style="text-align: right;">\$653,165,303</td> <td style="text-align: right;">80%</td> <td style="text-align: right;">\$522,532,242</td> </tr> <tr> <td>(b) Year ended 6/30/05</td> <td style="text-align: right;">\$179,823,045</td> <td style="text-align: right;">60%</td> <td style="text-align: right;">\$107,893,827</td> </tr> <tr> <td>(c) Year ended 6/30/04</td> <td style="text-align: right;">\$499,642,191</td> <td style="text-align: right;">40%</td> <td style="text-align: right;">\$199,856,876</td> </tr> <tr> <td>(d) Year ended 6/30/03</td> <td style="text-align: right;">(\$401,116,000)</td> <td style="text-align: right;">20%</td> <td style="text-align: right;">(\$80,223,200)</td> </tr> <tr> <td>(e) Year ended 6/30/02</td> <td></td> <td></td> <td style="text-align: right;">\$750,059,745</td> </tr> <tr> <td>3. Actuarial value of assets: (1) - (2e) ("Current Assets")</td> <td></td> <td></td> <td style="text-align: right;">\$19,035,611,839</td> </tr> </table>	1. Market value of assets available for benefits	\$19,785,671,584		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="text-align: center;">Original Amount</td> <td style="text-align: center;">% Not Recognized</td> <td style="width: 20%;"></td> </tr> </table>		Original Amount	% Not Recognized		2. Calculation of unrecognized return		(a) Year ended 6/30/06	\$653,165,303	80%	\$522,532,242	(b) Year ended 6/30/05	\$179,823,045	60%	\$107,893,827	(c) Year ended 6/30/04	\$499,642,191	40%	\$199,856,876	(d) Year ended 6/30/03	(\$401,116,000)	20%	(\$80,223,200)	(e) Year ended 6/30/02			\$750,059,745	3. Actuarial value of assets: (1) - (2e) ("Current Assets")			\$19,035,611,839		
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Funding Impact	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Act. Liab.</td> <td style="text-align: right;">\$20,679,110,879</td> </tr> <tr> <td>Assets</td> <td style="text-align: right;"><u>\$19,649,139,143</u></td> </tr> <tr> <td>UAL</td> <td style="text-align: right;">\$1,029,971,736</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Funding Ratio</td> <td style="text-align: right;">95.02%</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Normal Cost Expenses</td> <td style="text-align: right;">\$349,678,399</td> </tr> <tr> <td>Amort.</td> <td style="text-align: right;">\$12,236,072</td> </tr> <tr> <td>Act. Req.</td> <td style="text-align: right;"><u>\$54,374,990</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$416,289,461</td> </tr> </table>	Act. Liab.	\$20,679,110,879	Assets	<u>\$19,649,139,143</u>	UAL	\$1,029,971,736	 		Funding Ratio	95.02%	 		Normal Cost Expenses	\$349,678,399	Amort.	\$12,236,072	Act. Req.	<u>\$54,374,990</u>		\$416,289,461	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Act. Liab.</td> <td style="text-align: right;">\$20,679,110,879</td> </tr> <tr> <td>Assets</td> <td style="text-align: right;"><u>\$19,694,658,742</u></td> </tr> <tr> <td>UAL</td> <td style="text-align: right;">\$984,452,137</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Funding Ratio</td> <td style="text-align: right;">95.23%</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Normal Cost Expenses</td> <td style="text-align: right;">\$349,678,399</td> </tr> <tr> <td>Amort.</td> <td style="text-align: right;">\$12,236,072</td> </tr> <tr> <td>Act. Req.</td> <td style="text-align: right;"><u>\$51,971,886</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$413,886,357</td> </tr> </table>	Act. Liab.	\$20,679,110,879	Assets	<u>\$19,694,658,742</u>	UAL	\$984,452,137	 		Funding Ratio	95.23%	 		Normal Cost Expenses	\$349,678,399	Amort.	\$12,236,072	Act. Req.	<u>\$51,971,886</u>		\$413,886,357	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Act. Liab.</td> <td style="text-align: right;">\$20,679,110,879</td> </tr> <tr> <td>Assets</td> <td style="text-align: right;"><u>\$19,035,611,839</u></td> </tr> <tr> <td>UAL</td> <td style="text-align: right;">\$1,643,499,040</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Funding Ratio</td> <td style="text-align: right;">92.05%</td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td>Normal Cost Expenses</td> <td style="text-align: right;">\$349,678,399</td> </tr> <tr> <td>Amort.</td> <td style="text-align: right;">\$12,236,072</td> </tr> <tr> <td>Act. Req.</td> <td style="text-align: right;"><u>\$86,764,874</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$448,679,345</td> </tr> </table>	Act. Liab.	\$20,679,110,879	Assets	<u>\$19,035,611,839</u>	UAL	\$1,643,499,040	 		Funding Ratio	92.05%	 		Normal Cost Expenses	\$349,678,399	Amort.	\$12,236,072	Act. Req.	<u>\$86,764,874</u>		\$448,679,345
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**St. Paul Teachers Retirement Fund Association (SPTRFA)**

	Pre-1984 Method		Post-1984/Pre-2000 Method		Current Method			
Summary	Book or cost value of investment securities.		Cost value of investment securities plus one-third of the difference between the cost value and the market value of the investment securities.		Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets at the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year).			
Result	\$740,961,588		\$829,213,976		\$938,919,005			
Calculation	Book Value	\$740,961,588	Market Value	\$1,005,745,229	4. Market value of assets available for benefits \$1,005,745,229			
			Book Value	\$740,961,588		Original	% Not	
			Difference	\$264,783,641		Amount	Recognized	
			Difference	\$264,783,641	5. Calculation of unrecognized return			
			One-Third	x .3333	(a) Year ended 6/30/06	\$36,135,488	80%	\$28,908,390
			Market Adjust.	\$88,252,388	(b) Year ended 6/30/05	\$26,860,009	60%	\$16,116,005
			Book Value	\$740,961,588	(c) Year ended 6/30/04	\$82,512,072	40%	\$33,004,829
			Market Adjust	\$88,252,388	(d) Year ended 6/30/03	(\$56,015,000)	20%	(\$11,203,000)
			Actuar. Value	\$829,213,976	(e) Year ended 6/30/02			\$66,826,224
					6. Actuarial value of assets: (1) - (2e)			\$938,919,005
					("Current Assets")			
Funding Impact	Act. Liab.	\$1,358,619,906	Act. Liab.	\$1,358,619,916	Act. Liab.	\$1,358,619,906		
	Assets	\$740,961,588	Assets	\$829,252,388	Assets	\$938,919,005		
	UAL	\$617,658,318	UAL	\$529,367,528	UAL	\$419,700,901		
	Funding Ratio	54.54%	Funding Ratio	61.04%	Funding Ratio	69.11%		
	Normal Cost	\$21,575,645	Normal Cost	\$21,575,645	Normal Cost	\$21,575,645		
	Expenses	\$608,955	Expenses	\$608,955	Expenses	\$608,955		
	Amort.	\$53,598,227	Amort.	\$45,936,661	Amort.	\$36,420,175		
	Act. Req.	\$75,782,827	Act. Req.	\$68,121,261	Act. Req.	\$58,604,775		

Using an actuarial value of assets rather than the market value of assets for a pension plan apparently is not uncommon among public pension plans and complies with generally accepted accounting principles under Government Accounting Standards Board pronouncements. Using a smoothing method that shaves off short-term market volatility is particularly advantageous from a policy perspective if the pension plan funding procedures immediately translate actuarial results into modified employer contribution amounts in the following year, where short-term value changes would produce highly variable contribution levels year to year. In Minnesota, this is a consideration only for Minneapolis Employees Retirement Fund (MERF) and for the five remaining local police and paid firefighter relief associations. The use of a smoothing mechanism may be sensible policy where the smoothing period reflects the actual pattern of market volatility, which tends to be either less than one year or longer than five years based on long-term stock market return data from Ibbotson Associates. Even if the smoothing period matches market cycles, an actuarial value of pension assets definition does nothing more than delay the recognition of actual market changes.

The following compares the actuarial value of assets and the market value of assets for the various statewide and major local retirement plans as of June 30, 2006:

Plan	Actuarial Value of Assets	Market Value of Assets	Actuarial Value as % of Market Value
MSRS-General	\$8,486,756,016	\$8,767,249,551	96.8%
MSRS-Correctional	535,356,819	549,986,069	97.3
Judges	151,850,386	154,151,618	98.5
State Patrol	618,990,349	633,419,202	97.7
PERA-General	12,495,207,148	12,828,990,072	97.4
PERA-Correctional	125,775,917	131,696,690	95.5
PERA-P&F	5,017,950,719	5,167,417,402	97.1
TRA	19,035,611,839	19,785,671,584	96.2
DTRFA	270,925,689	281,950,173	96.1
SPTRFA	938,919,005	1,005,745,229	93.4
MERF	1,490,280,063	1,494,046,146	99.7
Total	\$49,167,623,950	\$50,800,323,736	96.8%

The valuation of both pension liabilities and pension assets is problematic because they are estimates of potential real life occurrences in advance of experiencing the occurrences. In valuing pension liabilities, the time separation from the estimation of the magnitude of the liability and the actual discharge of the liability can be considerable and the only "real" or "accurate" determination of a pension plan's ultimate pension liabilities occurs when all of the pension plan's obligations have been paid and the pension plan is terminated. In valuing pension assets, time is not the primary problem, but the primary problem is an assumption that the final market price of an investment sold by someone else on a given date by a market reporting mechanism could also be obtained by the pension plan if the plan sold all of its investments on that same date, even though an increase in the supply of investments for sale by that action should have a dampening effect on the available price. The problem of valuing pension plan assets is compounded by the considerable variability in market values from day to day, which makes the comparison of asset values on a predetermined date with the low variability of pension plan liabilities on a given date less reliable.

## Attachment C

### Background Information on the Minnesota Post Retirement Investment Fund (MPRIF)

1. In General. The Minnesota Post Retirement Investment Fund (MPRIF) is the post-retirement adjustment mechanism currently applicable to the various statewide public retirement plans in Minnesota. The Minnesota Post Retirement Investment Fund includes both an inflation-related post-retirement adjustment component and an investment-related post-retirement adjustment mechanism.

Because the Minnesota Post Retirement Investment Fund is the subject of an additional contemporaneous interim study, this background information is abbreviated to avoid undue repetition.

2. Pre-Minnesota Adjustable Fixed Benefit Fund Post-Retirement Adjustments. According to information assembled by the Commission staff in 1976 and 1979, the major Minnesota statewide retirement plans provided some post-retirement adjustments during the period 1953-1969, but none of the adjustments were determined based on investment performance on retirement assets or were otherwise investment related. Between 1953 and 1969, retirees of the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General) received three post-retirement adjustments, retirees of the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General) received three post-retirement adjustments, and retirees of the Teachers Retirement Association (TRA) received seven post-retirement adjustments. The post-retirement adjustments during the period 1953-1969 generally were granted to retirees at large (except for TRA, where four adjustments were related to the 1959 law (prior plan) retirees) and were funded out of the retirement fund rather than the State General Fund more frequently.
3. Minnesota Adjustable Fixed Benefit Fund. The initial automatic post-retirement adjustment mechanism (Laws 1969, Chapter 485, Section 32, and Laws 1969, Chapter 914, Section 10) was the Minnesota Adjustable Fixed Benefit Fund (MAFB), which was created to provide increases in the pensions of retired persons to help meet increased costs of living. The adjustments under the Minnesota Adjustable Fixed Benefit Fund were wholly funded from investment gains in excess of the post-retirement interest rate actuarial assumption on the fully funded reserves for the retirement annuities covered by the mechanism. Under the Minnesota Adjustable Fixed Benefit Fund, if the mechanism experiences investment losses, previous post-retirement increases, if any, can be reduced, but the retirement annuity amount originally payable at retirement is guaranteed. Thus, the Minnesota Adjustable Fixed Benefit Fund was functionally a variable annuity mechanism with an original benefit amount benefit floor.

Each retirement fund taking part in the Minnesota Adjustable Fixed Benefit Fund transferred sufficient reserves to permit level annuities to be paid to retirees, providing the fund continued to earn at least the actuarial interest requirement. The Minnesota Adjustable Fixed Benefit Fund annuity amounts could be modified through an adjustment mechanism relying on a two-year average total rate of return measure. The use of the averaging feature was intended to add some stability. The total rate of return included dividends, interest, and realized and unrealized gains or losses. Annually, a "benefit adjustment factor" was computed. This was calculated by dividing the result of one plus a two-year average total rate of return by one plus the actuarial return. If the fund was not meeting the actuarial investment earnings requirement, the ratio was less than one. If the return equaled the actuarial return, the ratio was equal to one. If the returns exceeded the actuarial return, the ratio would be greater than one. The law provided that benefits could be increased if the benefit adjustment factor was greater than 1.02, providing that certain additional requirements were met. If the benefit adjustment factor was less than .98, a benefit decrease was required, but at no time could the retirement benefits drop below the benefit level received on the date of retirement.

The benefit increases actually granted through the Minnesota Adjustable Fixed Benefit Fund were minimal, due in part to an initial failure to isolate out mortality gains and losses in the first version adjustment formula, to the poor investment climate during the early 1970s, and to the presence of the annuity stabilization reserve that was part of the Minnesota Adjustable Fixed Benefit Fund adjustment process. Benefit increases above four percent could not be paid unless the annuity stabilization reserve contained enough assets to cover 15 percent of the past year's benefit payments. If the reserve was insufficient, part of the new investment earnings were added to the reserve, rather than being paid out as benefits. Benefit increases above four percent required correspondingly higher annuity reserves under the Minnesota Adjustable Fixed Benefit Fund law.

The Minnesota Adjustable Fixed Benefit Fund was initially proposed by the Teachers Retirement Association (TRA), was developed by the TRA actuary (the late Edward Brown of the actuarial firm of Brown & Flott), and was not reviewed by the Legislative Retirement Study Commission during the 1967-1969 interim. The initial TRA proposal provided for separate adjustment mechanisms for each of the various statewide plans and was funded from investment income in excess of the interest rate actuarial assumption when that fortuitous funding occurred. During the 1969 Session, the TRA proposal was broadened to cover all statewide retirement plans and to cover the Minneapolis Employees Retirement Fund (MERF) in a single combined mechanism administered by the State Board of Investment. The mechanism benefited from the funding progress that the State experienced since 1957 when its pension funds amassed assets greater than the required reserves for retirees and attempted to balance the limited goal of providing periodic increases to help meet the increased costs of living without "raiding" the pension funds or the public treasury because increases were funded from the yield on investment assets in excess of the statutory assumptions. Commission policy before 1969 held that post-retirement adjustments were a version of public assistance rather than part of the pension program. The Commission staff in the 1960s appears to have been strongly committed to variably annuity programs.

With the enactment of the 1973 benefit improvements, principally the replacement of the career average salary base with the highest five years average salary base for benefit calculations, the increase of the interest rate actuarial assumption from 3.5 percent to 5.0 percent, the granting of a two-part 25 percent post-retirement increase to pre-1973 retirees, and the occurrence of high inflation and modest investment performance in the mid-1970s, the Minnesota Adjustable Fixed Benefit Fund did not fulfill the fanfare that accompanied its establishment. The Minnesota Adjustable Fixed Benefit Fund only paid one set of increases operating as designed, in 1972 (MSRS-General, 2.0 percent; MERF, 4.0 percent; PERA-General, 4.0 percent; and TRA, 2.5 percent; differing because mortality gains and losses were not isolated out of the formula until 1973), with the potential for increases 1973-1975 overridden by the 25 percent 1973 interest rate actuarial assumption modification-based adjustments, with the "initial benefit amount" reset to include the benefit amounts payable after the 1973 and 1974 increases, and with legislative intervention (Laws 1978, Chapter 665, Section 2) allowing for a 4.0 percent 1978 adjustment, even though the Minnesota Adjustable Fixed Benefit Fund formula did not permit the payment of an increase.

4. Minnesota Post Retirement Investment Fund 1980-1992. The Minnesota Adjustable Fixed Benefit Fund was substantially revised in 1980 (see Laws 1980, Chapter 607, Article XV, Section 16) and was renamed the Minnesota Post Retirement Investment Fund. The 1980 Minnesota Post Retirement Investment Fund retained the pooling of fully funded retirement annuity reserves of the Minnesota Adjustable Fixed Benefit Fund and increases were based on investment performance in excess of the post-retirement interest rate actuarial assumption akin to the Minnesota Adjustable Fixed Benefit Fund, but the investment performance was determined on a yield basis (i.e., dividends on equities, interest on debt equities, and realized gains on the sale of investments) rather than the total rate of return used by the Minnesota Adjustable Fixed Benefit Fund.

Like the Minnesota Adjustable Fixed Benefit Fund, the 1980 version of the Minnesota Post Retirement Investment Fund included an automatic adjustment mechanism intended to provide benefit adjustments to help offset, to some degree, increases in living costs. One difference was that while the Minnesota Adjustable Fixed Benefit Fund based adjustments on total investment return, including unrealized gains, the 1980 version of the revised Minnesota Post Retirement Investment Fund provided adjustments based solely on realized income. Another difference was that the Minnesota Post Retirement Investment Fund contained no provisions for reducing benefit levels when investment returns were low. Third, the original revised Minnesota Post Retirement Investment Fund based adjustments on a single year's realized investment return, rather than using an average of a multi-year period. To determine adjustments, at the end of each fiscal year (June 30), the required reserves were calculated. The required reserves were the assets needed to meet the current stream of annuity payments to be paid to retirees over time, providing that the assets earned at least five percent, which was the Minnesota Post Retirement Investment Fund actuarial interest assumption at that time. The total reserves were multiplied by 1.05 to determine the amount of investment income needed to sustain the current benefit level. By subtracting this amount from total realized investment earnings, excess investment earnings were determined and were used to create a permanent increase in the annuities of retirees. The fiscal year information was used to determine the amount of increase, if any, payable on the next January 1, the effective date of any benefit increase. To determine benefit increases payable as of January 1, the excess investment income and the required reserves must be projected forward to that date by increasing the excess investment income by 2.5 percent, the return which those funds must earn for the six month period in order to meet the actuarial assumption, and by estimating the total required reserves on January 1 for those eligible for a post-retirement adjustment.

The 1980-1992 Minnesota Post Retirement Investment Fund paid increases in each of the 12 years that it was in effect. The average increase during the 12-year period was 6.5 percent.

5. Combined Cost-of-Living Component/Investment-Performance Component Minnesota Post Retirement Investment Fund. Significant changes in the Minnesota Post Retirement Investment Fund occurred in 1992 (Laws 1992, Chapter 530). The mechanism was revised to include two components rather than the prior single component. The combined components were:
  - i) Inflation Match Component. An annual post-retirement increase matching inflation, but not to exceed 3.5 percent, was created; and
  - ii) Additional Investment-Based Component. An additional investment performance-based increase was permitted based on investment performance in excess of 8.5 percent total returns over five-year periods, based on the total rate of return of the investment fund rather than investment yield.

The addition of an inflation match component to the Minnesota Post Retirement Investment Fund, measured by the annual increase in the Consumer Price Index, changed the effective post-retirement interest rate actuarial assumption from the previous understated five percent assumption to the identical rate as the pre-retirement interest rate actuarial assumption, the official rate of five percent plus 3.5 percent to account for the inflation component, or 8.5 percent. The investment performance component was triggered by total rate of return investment performance in excess of 8.5 percent, with one-fifth of that performance credited to the current year and the remaining four one-fifths credited to the succeeding four years to smooth out performance results over several years. The net total amount of past and current investment performance credited to the current year become the required reserves for the investment performance component increase based on the percentage relationship between the new reserves and the total required reserves of retirees eligible for an investment component increase.

The 1992 revisions in the Minnesota Post Retirement Investment Fund resulted in the payment of post-retirement adjustments in each of the five years that this version of the mechanism was in effect. The average increase during the five-year period was 5.80 percent.

6. Downsized Cost of Living Component of the Minnesota Post Retirement Investment Fund. In 1997 (Laws 1997, Chapter 233, Article 1, Section 5), the inflation match component was revised downward to 2.5 percent rather than 3.5 percent, and at the same time the Minnesota Post Retirement Investment Fund investment return assumption was revised from five percent to six percent, retaining the effective post-retirement interest rate actuarial assumption governing the mechanism at 8.5 percent. The revised Minnesota Post Retirement Investment Fund investment return assumption was part of a package of benefit changes intended to increase the benefit level payable at the time of retirement. The benefit improvement as it applied to the State Board of Investment-invested plans increased the benefit accrual rates for all of the defined benefit plans participating in the Minnesota Post Retirement Investment Fund. In part, the 1997 benefit accrual rate increase was financed by the revised Minnesota Post Retirement Investment Fund inflation-match component and investment component actuarial assumption. Fewer reserves are needed to support any given annuity if the assets are assumed to earn six percent prior to payout rather than five percent. The released reserves were used to cover higher benefits at the time of retirement. But the 1997 six percent return requirement, rather than the prior five percent, leaves less of a margin between the Minnesota Post Retirement Investment Fund investment return assumption and the true long-term expected annual rate of return, which is 8.5 percent. The inflation match component was reduced from 3.5 percent to 2.5 percent to compensate. In effect, in 1997 a higher benefit at the time of retirement was traded for approximately one percent per year lower Minnesota Post Retirement Investment Fund inflation-related adjustments.

The 1997 revisions in the Minnesota Post Retirement Investment Fund resulted in the payment of a post-retirement adjustment in each of the past nine years since the most recent substantive modifications. The average increase during the nine-year period was 5.88 percent.

7. Post-Retirement Adjustment Maximum. In 2006 (Laws 2006, Chapter 277, Article 1, Section 1), a maximum annual adjustment from the Minnesota Post Retirement Investment Fund of five percent was adopted, effective July 1, 2010. The 2006 maximum was intended to moderate the high and low adjustments year to year by eliminating very high rates of increase, automatically retaining the reserves related to the unpaid increase amount to fund higher future increases during low investment performance periods. The delay to 2010 was intended to permit the applicable retirement plans to seek approval from the federal Internal Revenue Service of the change.

## Attachment D

### Background Information on the Current Deficit in the Minnesota Post Retirement Investment Fund (MPRIF)

#### 1. Brief Description of the Minnesota Post Retirement Investment Fund (MPRIF)

The Minnesota Post Retirement Investment Fund (MPRIF) is an investment fund and the post-retirement adjustment mechanism for the various statewide retirement plans. Post-retirement increases are a combination of the percentage increase in the federal Consumer Price Index (CPI), subject to a 2.5 percent annual maximum, and one-fifth of the investment income on the MPRIF assets in excess of 8.5 percent plus one-fifth of any "excess" investment income from each of the prior four years. At retirement, actuarially determined required reserves for each retiree are transferred to the MPRIF and are invested in a manner virtually identically to the assets related to plan active members, with a heavy stock investment component. Transfers are made to and from the MPRIF annually in the event of future mortality gains or losses. If the market value of MPRIF assets is less than the required reserves value, no future excess investment income post-retirement increase is payable until the MPRIF deficit is eliminated. Post-retirement increases are compounding percentage amounts and increases, once granted, are not subject to any future reduction. For actuarial and annual financial reporting, MPRIF assets are carried at the actuarial required reserve value rather than market value or other value. The MPRIF increases have averaged 5.7 percent over a 28-year period (1978-2005), compared to the CPI average increase of 4.3 percent, and have exceeded the cost of living increase in 19 of 28 years, include an 11-year continuing period 1992-2002. When the MPRIF increase over-performed the cost of living in the past, it usually did so by a considerable margin.

#### 2. MPRIF Deficit Amount

Because MPRIF increases are not rolled back when the investment climate is bad and because of the significant decline in the equity markets that occurred in 2001-2002, the current (June 30, 2006) market value of the MPRIF is \$4.178 billion less than the actuarial required reserves value of the MPRIF on that date, as follows:

	<u>MPRIF-Whole</u>	<u>MSRS Portion</u>	<u>PERA Portion</u>	<u>TRA Portion</u>
Required Reserves	\$26,089,000,000	\$3,689,400,000	\$6,791,100,000	\$12,371,200,000
Market Value	<u>21,911,000,000</u>	<u>3,098,700,000</u>	<u>5,703,800,000</u>	<u>10,390,600,000</u>
Deficit	\$4,178,000,000	\$590,700,000	\$1,087,300,000	\$1,980,600,000

#### 3. Accounting Issue

Generally accepted accounting principles for Minnesota public pension plans are governed by the Government Accounting Standards Board (GASB), which requires the use of market value or actuarial value of assets based on market value in pension accounting. The use of the actuarial required reserves of the MPRIF as the carrying value of the MPRIF for actuarial valuations and annual financial reporting is now viewed by some of the accounting personnel of the retirement plans and by the Office of the Legislative Auditor as being outside of the permitted values under GASB pronouncements and they may be seeking modifications in Minnesota actuarial and financial reporting laws to gain GASB consistency.

#### 4. Funding Issue

The sole funding mechanism for retiring the MPRIF deficit is the statutory claim against any potential future investment performance-related post-retirement adjustment until the deficit is eliminated (see Minnesota Statutes, Section 11A.18, Subdivision 9, Paragraph (c), Clause (9)). Unless MPRIF investment performance greatly exceeds 8.5 percent in the short run, the elimination of the MPRIF deficit may take one or two decades to eliminate. Unless the MPRIF never again earns an investment return in excess of 8.5 percent and the assets of the MPRIF become insufficient to pay benefits due and owing, the active member accounts of the participating retirement plans and the State will not have any enforceable legal obligation to provide additional funding to eliminate the MPRIF deficit. Because the market value of the MPRIF is only 83.99 percent of the MPRIF required reserves value, to produce one dollar excess MPRIF investment income (in excess of 8.5 percent of required reserves) would necessitate an actual rate of return on the market value of assets in excess of 10.12 percent.

A report produced by the Minnesota Taxpayers Association in Spring 2006 was strongly critical of various MPRIF practices, including the non-inclusion of the MPRIF deficit in the calculation of the

unfunded actuarial accrued liability and funded ratio of the affected retirement plans. Reportedly, a report to be released by the Program Evaluation Division of the Office of the Legislative Auditor on Post-Employment Benefits for Public Employees will also be critical of the lack of a direct disclosure of the funding impact of the MPRIF deficit.

5. Benefit Issue

The claim against all future potential MPRIF investment performance-related post-retirement adjustments that arises under Minnesota Statutes, Section 11A.18, Subdivision 9, whenever the MPRIF has a deficit means that current retirees of the statewide retirement plans (a total of 137,769 benefit recipients) will not receive a post-retirement adjustment in excess of 2.5 percent in any future year for the foreseeable future. Based on the experience of retirees during the period 1992-2002, when MPRIF increases were frequently twice or three times the cost of living, retirees will likely take issue with the expected modest future pattern of MPRIF adjustments.

The Legislature established the MPRIF with conflicting goals, seeking a post-retirement adjustment mechanism that would be affordable (hence the reliance on "excess" investment performance to fund a considerable portion of future adjustments), recurring (hence automatically payable every year), and capable of replacing purchasing power lost to inflation (hence the CPI-related adjustment component). While low inflation combined with strong equity markets accomplished these goals during the 1990s, that pattern is unlikely to be repeated for some time into the future.

The Commission was mandated to study the issue during the 2006-2007 Interim and report to the 2007 Legislature in Laws 2006, Chapter 277, Article 7. The Commission has conducted the basic research required to complete the study, but the Commission delayed completion of the study until after January 1, 2007.

## Attachment E

### Background Information on the Recent Reports by the Minnesota Taxpayers Association and by the Legislative Auditor, Program Evaluation Division

#### 1. Summary of the Minnesota Taxpayers Association/Minnesota Center for Public Finance Research

The Minnesota Taxpayers Association was founded in 1926 and is a nonprofit, nonpartisan organization with a statewide membership. The organization provides state and local policymakers with objective nonpartisan research about the impacts of tax and spending policies, and advocates for the adoption of rational public fiscal policy.

The Minnesota Center for Public Finance Research is the Internal Revenue Code Section 501(c)(3) supporting research and education organization for the Minnesota Taxpayers Association. The Center's mission is to provide objective research and analysis on state and local tax and spending issues in support of effective, efficient, and accountable government.

#### 2. Summary of the Findings and Recommendations of the Minnesota Taxpayers Association/Minnesota Center for Public Finance Research Pension Report

##### a. Minnesota Taxpayers Association Findings

- i. Extent of Unfunded Pension Liabilities. Six of Minnesota's largest public employee pension funds, which cover 600,000 people, had \$9.8 billion in unfunded liabilities in June 2005 – about 21 percent of total liabilities for the six funds. This includes \$6.1 billion for current state employees and employees and retirees covered by teacher pension funds in Duluth, Minneapolis and St. Paul, and \$3.7 billion for current retirees covered by three state plans.
- ii. Funding Levels and Contribution Deficiencies. Funding levels for the six pension plans range from 98 percent fully funded down to 45 percent funded. At the time, five of the six plans suffer from contribution deficiencies, meaning current contributions made by employees and employers (taxpayers) are not enough to close the existing funding gap. However, one fund (PERA) has already increased employer and employee contributions to begin closing the gap, and 1 is pending (MSRS).
- iii. Investment Performance-Related Post-Retirement Adjustment Practices. Minnesota is the only state that requires turning exceptional – and volatile – investment gains into permanent benefit increases for retirees. When annual investment returns exceed 8.5%, revenue over that is added to benefits of current retirees. Between 1994 and 2006, this practice committed \$4.87 billion in fund assets to permanent benefit increases that continue, regardless of future fund performance. This is in addition to \$3.52 billion inflation-driven benefit increases over the same period. (Wisconsin's main pension fund is the only other fund we are aware of with a similar requirement. But the fund also reduces benefits in response to exceptional investment losses.)

These mandatory investment performance bonuses have had a profound impact on Minnesota's public employee pension plans. Mandatory investment performance bonuses have:

- (a) contributed \$4.87 billion to the total liabilities of the funds;
- (b) created tremendous generational inequity, giving public employees who retired prior to 2001 generous pension increases that post-2001 retirees have not, and likely will not, see;
- (c) pushed Minnesota's per capita state and local employee retirement payments to fifth highest in the nation in 2002 – up from 25<sup>th</sup> in 1992; and
- (d) put taxpayers on the hook for future benefits even after markets recover, because exceptional investment income will still be dedicated for additional benefit increases.

##### b. Minnesota Taxpayers Association Recommendations

- i. To Improve the Monitoring and Reporting of Pension Health and Spending in Minnesota
  - (a) Require Governors' proposed budgets to list pension contribution costs separately.
  - (b) Initiate value-added performance auditing, which would translate annual investment rates of return into actual pension dollars gained or lost, and would quantify those results over time.

- (c) Move public pension fund monitoring from the State Auditor's Office to an agency with personnel not directly elected by the voters.
  - (d) Develop and report funded ratios and unfunded liability totals for both the basic funds and the "post-retirement" fund, which applies to retirees covered by the state-managed pension plans.
- ii. To Improve the Design and Function of Minnesota's Defined Benefit Pension System
- (a) Apply standards used in the financial planning industry to set replacement income guidelines for public pension plans
  - (b) Permanently end benefit increases based on superior investment returns and provide only capped inflationary adjustments.
  - (c) Develop quantifiable standards of replacement income to be achieved through pension benefits.
  - (d) When the Basic Funds are under-funded and the Post Fund is fully funded, transfer only the fractional reserves necessary to keep the Post Fund "whole."
  - (e) Should surpluses for both the basic and post funds return, give first priority to reducing employee and employer contributions, followed by establishing self-managed accounts.

3. Summary of the Office of the Legislative Auditor/Program Evaluation Division

The Office of the Legislative Auditor is a professional, nonpartisan audit and evaluation office within the legislative branch of the Minnesota state government, created in 1973, and operating under the direction of the Legislative Auditor, who is appointed by the Legislative Audit Commission. The office's principal goal is to provide the Legislature, agencies, and the public with audit and evaluation reports and the office focuses primarily on state agencies and programs.

The Program Evaluation Division was created within the Office of the Legislative Auditor in 1975, and its mission is to determine the degree to which state agencies and programs are accomplishing their goals and objectives and utilizing resources efficiently. Topics for evaluations are approved by the Legislative Audit Commission and are independently researched by the Legislative Auditor's professional staff.

4. Summary of the Findings and Recommendations of the Office of the Legislative Auditor, Program Evaluation Division, Public Employee Post Retirement Benefits Report

a. Office of the Legislative Auditor, Program Evaluation Division Findings

- i. Non-Pension Post-Employment Benefit Coverage and Funding Problems. Twenty-four public employers in Minnesota have accumulated \$1.5 billion in liabilities from promises to pay for retiree benefits (excluding pension obligations) over the next 30 years and this estimate could grow significantly as additional jurisdictions have actuarial studies completed. The principal post-employment benefit public employers pay for, other than pensions, is healthcare insurance and, currently significant spending on this and similar post-employment benefits is concentrated in a small number of jurisdictions. Most local governments are not setting aside money to fund liabilities for non-pension post-employment benefits that will come due in the future as employees retire.
- ii. Public Pension Plan Funded Condition Understated. Widely reported funding ratios make statewide pension plans appear better funded than they really are because they do not reflect a \$4 billion deficit in the Post Fund used to pay benefits to retirees.
- iii. Recent Public Pension Plan Contribution Increases Insufficient. Recent legislative changes will help statewide pension funds become fully funded and have improved the Post Fund formula for increasing benefits, but they will not solve the Post Fund's deficit or eliminate risk of future deficits.
- iv. Major Local Pension Plan Funding Problems Exist. Among the major local pension plans, the St. Paul Teachers Retirement Fund Association (SPTRFA) currently is the most at risk of serious future funding problems.

b. Office of the Legislative Auditor, Program Evaluation Division Recommendations

- i. To Improve Non-Pension Post-Employment Benefit Funding. The Legislature should allow local governments to establish irrevocable trusts to fund post-employment benefits other than pensions.
- ii. To Improve Statewide Pension Plan Financial Disclosure. The Legislature should require statewide pension plans' funding ratios to reflect the actual market-related value of the Post Fund.
- iii. To Revise the Statewide Pension Plan Post-Retirement Adjustment Mechanism. The Legislature should fully fund the Post Fund and change the benefit formula to protect against future deficits, treat retirees equitably, and better protect pension benefits against inflation.
- iv. To Improve Local Pension Plan Funded Conditions. The Legislature should disallow certain benefit increases when local teacher pension funds have large deficits. It should consider changing the formulas used to increase post-retirement benefits, and it should consider increasing contributions for the St. Paul Teachers Retirement Fund Association (SPTRFA).

## Attachment F

### Background Information on the 2000-2004 Quadrennial Experience Study Results and Recommendations

#### 1. Quadrennial Experience Study Requirement

Minnesota Statutes, Section 356.215, Subdivisions 2 and 16, require that experience studies be conducted every four years 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), and the Teachers Retirement Association (TRA) to analyze the experience of each retirement plan and to compare that experience with the expected results under the actuarial assumptions on which the most recent actuarial valuation is based.

Quadrennial experience studies augment actuarial valuations. Actuarial valuations are prepared annually to determine whether the statutory contribution rates are sufficient to fund the retirement plan on an actuarial reserve basis, using a projection of the benefits expected to be paid in the future to all members of the plan based on the characteristics of members as of the valuation date, the benefit provisions in effect on that date, and assumptions of future events and conditions. The assumptions used in actuarial valuations can be grouped in two categories: (1) economic assumptions—the assumed long-term rates of investment return, salary increases, and payroll growth; and (2) non-economic or demographic assumptions—the assumed rates of withdrawal, disability, retirement, and mortality. Demographic assumptions are selected primarily on the basis of recent experience, while economic assumptions rely more on a long-term perspective of expected future trends. Actuarial experience studies serve as the basis for recommended changes in actuarial assumptions and methods. A change in assumptions should be recommended when it is demonstrated that the current assumptions do not accurately reflect the current trend determined from analysis of the data or anticipated future trends based upon reasonable expectations. The data analyzed is the actual experience for demographic assumptions and an economic forecast for economic assumptions. The Actuarial Standards Board provides actuaries with the standards of practice that provide guidance and recommendations on acceptable methods and techniques to be used in developing both economic and demographic assumption (see Actuarial Standard of Practice No. 27 (*Selection of Economic Assumptions for Measuring Pension Obligations*) and Actuarial Standards of Practice No. 35 (*Selection of Demographic and Other Non-Economic Assumptions for Measuring Pension Obligations*)).

#### 2. Summary of 2000-2004 MSRS-General, PERA-Genera, and TRA Quadrennial Experience Study Results

The 2000-2004 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) are extensive documents, where a summary of results does less than full justice to each document.

The following sets forth the characterization of the experience study results for each actuarial assumption, generally collectively for the three plans with respect to economic actuarial assumptions and individually with respect to demographic actuarial assumptions:

#### Economic Assumptions

Type		Current Assumption	Comparison With Experience
Inflation		4.00% - 4.50%/year	Currently ranges between 2.75% - 3.50%/year.
Interest (Rate of Return)		8.5%	Current range estimate 7.92% - 8.42%/year.
Salary Increase	MSRS-General	Select & Ultimate	Observed less than assumed during both select and ultimate periods, significantly less at higher ages and with longer service.
	PERA-General	Select & Ultimate	Observed less than assumed during both select and ultimate periods, notably less at higher ages and with longer service.
	TRA	Select & Ultimate	Observed less than assumed during both select and ultimate periods, somewhat less at higher ages and with longer service.

Type		Current Assumption	Comparison With Experience
Payroll Growth	MSRS-General	5.00%	3.5% average annual payroll increase, with modestly declining number of active members.
	PERA-General	6.00%	3.62% average annual payroll increase, with very modestly increasing number of active members.
	TRA	5.00%	2.5% average annual payroll increase, with slightly increasing number of active members.

## Demographic Assumptions

Type		Current Assumption	Comparison With Experience
Withdrawal	MSRS-General	Select & Ultimate	During select period, modestly less for males and slightly less for females. During ultimate period, slightly less for males and modestly less for females.
	PERA-General	Select & Ultimate	During select period, very slightly greater for males and modestly greater for females. During ultimate period, slightly greater for males and significantly greater for females.
	TRA	Select & Ultimate	During select period, nominally greater for both males and females. During ultimate period, very slightly less for males and modestly greater for females.
Disability	MSRS-General	Table	Significantly greater than assumed for both males and females.
	PERA-General	Table	Moderately less than assumed for males and nominally less than assumed for females.
	TRA	Table	On point for males and very significantly greater for females.
Retirement Rates	MSRS-General	Table	Very significantly less than assumed for "Rule of 90" and significantly less than assumed for other retirements.
	PERA-General	Table	Very significantly less than assumed for "Rule of 90" and very significantly less than assumed for other retirements.
	TRA	Table	Significantly greater than assumed for "Rule of 90" and very significantly less than assumed for other retirements.
Post-Retirement Mortality	MSRS-General	Table	Very significantly greater than assumed for males and significantly greater than assumed for females.
	PERA-General	Table	Nominally greater than assumed for males and slightly greater than assumed for females.
	TRA	Table	Slightly less than assumed for males and significantly greater than assumed for females.
Pre-Retirement Mortality	MSRS-General	Table	Very slightly greater than assumed for males and very significantly less than assumed for females.
	PERA-General	Table	Significantly less than assumed for males and slightly greater than assumed for females.
	TRA	Table	Very significantly less than assumed for males and significantly less than assumed for females.
Disabled Mortality	MSRS-General	Table	Very significantly greater than assumed for males and significantly greater than assumed for females.
	PERA-General	Table	Very significantly less than assumed for males and very significantly less than assumed for females.
	TRA	Table	Moderately less than assumed for males and moderately greater than assumed for females.
Percentage Married	MSRS-General	85% married	No data presented.
	PERA-General	85% male / 65% female married	No data presented.
	TRA	85% male / 65% female married	No data presented.

Type		Current Assumption	Comparison With Experience
Beneficiary Age	MSRS-General	Females 3 years younger	Males 3.29 years older than spouse; females 2.51 years younger than spouse.
	PERA-General	Females 4 years younger	Males 3.06 years older than spouse; females 1.82 years younger than spouse.
	TRA	Females 3 years younger	Males 4 years older than spouse; females 5 years younger than spouse.
Optional Annuity Form	MSRS-General	Variable utilization	No data presented.
	PERA-General	Variable utilization	No data presented.
	TRA	Variable utilization	No data presented.

### 3. Summary of Actuarial Assumption Change Recommendations From 2000-2004 Quadrennial Experience Studies and January 16, 2007, Conference Call

The quadrennial 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) prepared during Winter 2005-2006 contained a number of recommendations for most demographic actuarial assumption changes and suggested further consultations with the affected retirement plans and the State Board of Investment for the various economic actuarial assumptions. That consultation occurred during a telephone conference call on January 16, 2007, reflected in a summary memorandum from Andre Latia of The Segal Company on February 7, 2007, provided to the Commission office on March 23, 2007.

The resulting recommendations for actuarial assumption changes are summarized as follows:

Assumption/Method	MSRS-General		PERA-General		TRA	
	Assumptions Used in 7/1/2004 Actuarial Val.	Assumptions Recommended in 2005 Exp. Study	Assumptions Used in 7/1/2004 Actuarial Val.	Assumptions Recommended in 2005 Exp. Study	7/1/2004 Actuarial Valuation	Recommended Assumption/Method
Inflation	4% - 4.50% per annum	3% per annum	4% - 4.50% per annum	3% per annum	5% per annum	3% per annum
Investment Return	8.50% per annum, net of investment expenses	No change	8.50% per annum, net of investment expenses	No change	8.50% per annum, net of investment expenses	No change
Salary Increases	Age based rates, with 10-year select period	Lower select rate period from 10 years to 5 years, change select rate from 0.30% to 0.60%, and lower ultimate rate by 1.00% for all ages	Age and service based rates with 10-year select period	Lower select rate period from 10 years to 5 years, change select rate from 0.30% to 0.60%, and lower ultimate rate by 1.00% for all ages	Age and service based rates with 10-year select period	Retain 10-year select rate period, retain 0.30% select rate, lower ultimate rate by 0.50% for all ages
Payroll Growth	5% per annum	4.50% per annum	5% per annum	4.50% per annum	5% per annum	4.50% per annum
Withdrawal	Age and gender based rates with 3-year select period	Lower female rates for ages 35 to 54	Age and service based rates with 3-year select period	No change	Age and service based rates with 3-year select period	No change
Disability Incidence	Age based rates	Higher rates for ages 50 to 65	Age based rates	No change	Age based rates	No change
Retirement	Age based rates for "Rule of 90" retirements and for non-"Rule of 90" retirements	Lower "Rule of 90" retirement rates for ages 55 to 60; no change for all other retirements	Age based rates for "Rule of 90" and for all other retirements	Lower "Rule of 90" rates from ages 55 to 61 and 63-64; change all other retirement rates at ages 61-62	Age based rates for "Rule of 90" retirements and for all other retirements	Increase "Rule of 90" retirement rates for ages 56 and 57, decrease rates for all other rates at ages 55-59, 61, and 65

Assumption/ Method	MSRS-General		PERA-General		TRA	
	Assumptions Used in 7/1/2004 Actuarial Val.	Assumptions Recommended in 2005 Exp. Study	Assumptions Used in 7/1/2004 Actuarial Val.	Assumptions Recommended in 2005 Exp. Study	7/1/2004 Actuarial Valuation	Recommended Assumption/ Method
Post-Retirement Mortality	1983 GAM Table for regular members set back 2 years for males and 1 year for females	No change	1983 GAM Table for regular members set back 1 year for males and 1 year for females	No change	1983 GAM Table set back 6 years for males and 3 years for females	No change
Pre-Retirement Mortality	1983 GAM Table for regular employees set back 5 years for males and 2 years for females	No change	1983 GAM Table for regular employees set back 8 years for males and 7 years for females	No change	1983 GAM Table set back 12 years for males and 10 years for females	No change
Disabled Mortality	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy mortality at age 65	No change	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy post-retirement mortality at age 65	No change	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy post-retirement mortality at age 65	No change
Beneficiary Mortality	1983 GAM Table for regular beneficiaries set back 2 years for males and 1 year for females	No change	1983 GAM Table for regular beneficiaries set back 1 year for males and 1 year for females	No change	1983 GAM Table set back 6 years for males and 3 years for females	No change
Dependent Children	No dependent children are assumed	No change	No dependent children are assumed	No change	No dependent children are assumed	No change
Marital Status	85% of all members are assumed to be married	No change	85% of male members and 65% of female members are assumed to be married	No change	85% of male members and 65% of female members are assumed to be married	No change
Spouse Age	Females are assumed to be 3 years younger than males	No change	Females are assumed to be 4 years younger	No change	Females are assumed to be 3 years younger than males	No change
Optional Form Election	Joint-and-survivor annuities elected at gender-based rates	No change	Joint-and-survivor annuities elected at gender-based rates	No change	Joint-and-survivor annuities elected at gender-based rates	No change
Actuarial Cost Method	Entry age normal	No change	Entry age normal	No change	Entry age normal	No change
Asset Valuation Method	5-year smoothing method under only the non-MPRIF reserves	Recommend review by auditors to determine GASB compliance	5-year smoothing method under only the non-MPRIF reserves	Recommend review by auditors to determine GASB compliance	5-year smoothing method under only the non-MPRIF reserves	Recommend review by auditors to determine GASB compliance
Amortization Method	Closed amortization period, 30 years as of 7/1/2004	Recommend ongoing review with Board and broader study	Closed amortization period; 27 years as of 7/1/2004	Recommend ongoing review and broader study with the Association	Closed amortization period ending 7/1/2020 if positive UAAL; 30 years as of 7/1/2004 due to surplus	Recommend ongoing review and broader study with the Association

## APPENDIX A

### SUMMARY OF PROPOSED RECOMMENDATIONS (continued)

<u>Assumption/Method</u>	<u>July 1, 2004 Actuarial Valuation</u>	<u>Recommended in 2005 Experience Study</u>
Disabled Mortality	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy mortality at age 65	No change
Beneficiary Mortality	1983 GAM Table for regular beneficiaries set back two years for males and one year for females	No change
Dependent Children	No dependent children are assumed	No change
Marital Status	85% of all members are assumed to be married	No change
Spouse Age	Females are assumed to be three years younger than males	No change
Optional Form Election	Joint and Survivor annuities elected at gender-based rates	No change
Actuarial Cost Method	Entry age normal	No change
Asset Valuation Method	Five-year smoothing Method under only the non-MPRIF reserves	Recommend review by auditors to determine GASB compliance
Amortization Method	Closed amortization period; 30 years as of July 1, 2004	Recommend ongoing review with Board and broader study

## APPENDIX A

### SUMMARY OF PROPOSED RECOMMENDATIONS

<u>Assumption/Method</u>	<u>July 1, 2004 Actuarial Valuation</u>	<u>Recommended in 2005 Experience Study</u>
Inflation	4.00%-4.50% per annum	Conduct broader study with SBI
Investment Return	8.50% per annum, net of investment expenses	Conduct broader study with SBI
Salary Increases	Age based rates, with ten-year select period	Conduct broader study with SBI
Payroll Growth	5.00% per annum	Conduct broader study with SBI
Withdrawal	Age and gender based rates with three-year select period	Lower female rates for ages 35 to 54
Disability Incidence	Age based rates	Higher rates for ages 50 to 60
Retirement	Age based rates for Rule of 90 retirements and for non-Rule of 90 retirements	Lower Rule of 90 retirement rates for ages 55 to 60; no change for all other retirements
Post-Retirement Mortality	1983 GAM Table for regular members set back two years for males and one year for females	No change
Pre-Retirement Mortality	1983 GAM Table for regular employees set back five years for males and two years for females	No change

**APPENDIX A**

**SUMMARY OF PROPOSED RECOMMENDATIONS (continued)**

<u>Assumption/Method</u>	<u>July 1, 2004 Actuarial Valuation</u>	<u>Recommended in 2005 Experience Study</u>
Disabled Mortality	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy post-retirement mortality at age 65	No change
Beneficiary Mortality	1983 GAM Table for regular beneficiaries set back one year for males and one year for females	No change
Dependent Children	No dependent children are assumed	No change
Marital Status	85% of male members and 65% of female members are assumed to be married	No change
Spouse Age	Females are assumed to be four years younger	No change
Optional form election	Joint and Survivor annuities elected at gender-based rates	No change
Actuarial Cost Method	Entry Age Normal	No change
Asset Valuation Method	Five-year smoothing Method under only the non-MPRIF reserves	Recommend review by auditors to determine GASB compliance
Amortization Method	Closed amortization period; 27 years as of July 1, 2004	Recommend ongoing review and broader study with the Association

PERA - General

**APPENDIX A**  
**SUMMARY OF PROPOSED RECOMMENDATIONS**

<u>Assumption/Method</u>	<u>July 1, 2004 Actuarial Valuation</u>	<u>Recommended in 2005 Experience Study</u>
Inflation	4.00% to 4.50% per annum	Conduct broader study with SBI
Investment Return	8.50% per annum, net of investment expenses	Conduct broader study with SBI
Salary Increases	Age and service based rates with ten-year select period	Conduct broader study with SBI
Payroll Growth	5.00% per annum	Conduct broader study with SBI
Withdrawal	Age and service based rates with three-year select period	No change
Disability Incidence	Age based rates	No change
Retirement	Age based rates for Rule of 90 and for all other retirements	Lower Rule of 90 rates from ages 55 to 61 and 63-64; change all other retirement rates at ages 61-62
Post-Retirement Mortality	1983 GAM Table for regular members set back one year for males and one year for females	No change
Pre-Retirement Mortality	1983 GAM Table for regular employees set back eight years for males and seven years for females	No change

**APPENDIX A**

**SUMMARY OF RECOMMENDATIONS (continued)**

<u>Assumption/Method</u>	July 1, 2004	Recommended
<u>Assumption/Method</u>	<u>Actuarial Valuation</u>	<u>Assumption/Method</u>
Beneficiary Mortality	1983 GAM Table set back six years for males and three years for females	No change
Dependent Children	No dependent children are assumed	No change
Marital Status	85% of male members and 65% of female members are assumed to be married	No change
Spouse Age	Females are assumed to be three years younger than males	No change
Optional Form Election	Joint and Survivor Annuities elected at gender-based rates	No change
Actuarial Cost Method	Entry Age Normal	No change
Asset Valuation Method	Five-year smoothing method under only the non-MPRIF Reserves	Recommend review by auditors to determine GASB compliance
Amortization Method	Closed amortization period ending July 1, 2020 if positive UAAL; 30 years as of July 1, 2004 due to surplus	Recommend ongoing review and broader study with the Association

**APPENDIX A**  
**SUMMARY OF RECOMMENDATIONS**

<u>Assumption/Method</u>	<u>July 1, 2004 Actuarial Valuation</u>	<u>Recommended Assumption/Method</u>
Inflation	5.00% per annum	Conduct broader study with SBI
Investment Return	8.50% per annum, net of investment expenses	Conduct broader study with SBI
Salary Increases	Age and service based rates with ten-year select period	Conduct broader study with SBI
Payroll Growth	5.00% per annum	Conduct broader study with SBI
Withdrawal	Age and service based rates with three-year select period	No change
Disability Incidence	Age based rates	No change
Retirement	Age based rates for Rule of 90 retirements and for all other retirements	Increase Rule of 90 retirement rates for ages 56 and 57, decrease rates for all other rates at ages 55 - 59, 61, and 65
Post-Retirement Mortality	1983 GAM Table set back six years for males and three years for females	No change
Pre-Retirement Mortality	1983 GAM Table set back twelve years for males and ten years for females	No change
Disabled Mortality	1965 Railroad Retirement Board Disabled Life Mortality Table through age 54, graded to healthy post-retirement mortality at age 65	No change



THE SEGAL COMPANY - CHICAGO

## MEMORANDUM

**To:** Dave Bergstrom  
Laurie Fiori Hacking  
Mary Most Vanek

**From:** Andre Latia – The Segal Company

**Date:** February 7, 2007

**Re:** Documentation of Actuarial Assumptions Conference Call held on January 16, 2007

A conference call was held at 1:30 p.m. CST on January 16, 2007 to discuss the actuarial assumptions to be used for the valuation of three Minnesota statewide systems – MSRS, PERA and TRA. On the call were the following:

System Participants	SBI	Buck Consultants	Mercer	Segal
Dave Bergstrom Dave DeJonge Laurie Fiori Hacking Mary Most Vanek John Wicklund	Howard Bicker	Kim Nicholl Paul Wilkinson	Steve McElhaney Bonnie Wurst	Cathie Eitelberg Susan Hogarth Andre Latia Tom Levy Brad Ramierz

After introductions, Howard Bicker presented the results of an analysis prepared by the SBI with respect to the long-term expected return of the total assets based on simulations of the various asset classes over time. Input was gathered from approximately 10 investment advisory firms with respect to the long-term expected return for each asset class and the correlations between asset classes. The study showed an expected return of 8.5% based on an underlying inflation assumption of 3%. This represented a 40 basis point reduction in expected return from a similar analysis done in September 2003. Questions and clarifying discussions ensued.

LCP & R MAR 23 2007

February 7, 2007

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Tom Levy of The Segal Company led a discussion surrounding the following points with respect to the interest rate assumption:

1. Differences of 25 – 50 basis points in the interest assumption have a significant cost impact but are too small to determine a preferred rate “scientifically.”
2. Based on NASRA’s FY 2005 survey of large statewide retirement systems, 8% is by far the most common rate. At 8.5%, Minnesota is at the high end of current practice (18 plans out of 112 in NASRA’s survey). However, Minnesota’s investment policy is more aggressive than is typical according to that survey, so there is a case to be made for a higher rate – the higher risk suggests a higher expected rate of return. Higher risk also means a greater likelihood of an unpleasant surprise.
3. It was noted that even within the group of investment advisors polled for the SBI analysis, there was a significant disparity in the expected rates of returns among the various asset classes.
4. The Minnesota projected return is 40 basis points lower than the most recent prior projection. If the expectation has declined, logically the assumption should be reduced as well.

As part of this discussion, Tom Levy reviewed the primary reasons why large statewide systems fund at all. Primary reasons are:

1. *Accrued benefit security for the participants.* This in fact is primarily an issue of perception that is of little validity. The only time accrued benefits would be in danger is if the plan were to terminate with an insolvent government.
2. *Security of future accruals.* Presumably, the sponsoring governments can afford the current contribution rates for the plans, and perhaps can bear small increases. Large increases, on the other hand, present major budgetary challenges, and are therefore to be avoided.
3. *Production of investment income.* Funded plans earn investment income. Better-funded plans earn more investment income. The benefits and expenses are paid for from two sources – contributions and investment income. The higher the investment income, the lower the required contributions. As the pension fund is likely to earn a higher rate of return than the governmental cost of capital, this represents a true savings to the taxpayers.
4. *Proper consideration of plan changes.* Level actuarial advance funding leads to proper assignment of costs to proposed plan changes.

Tom Levy made the point that it is clear that there is no “right” or “wrong” answer with respect to the interest assumption. The use of a lower rate will increase the calculated contribution immediately. However, it will change the likelihood of a future required increase. If 8.5% is the expectation and 8.25% is the assumption, experience is more likely to be favorable than unfavorable.

Additional discussion among the three actuarial firms took place with respect to each individual economic assumption summarized below.

A consensus was reached among the three firms that the following represents a reasonable set of actuarial assumptions that will be used for the 7/1/2007 actuarial valuations:

Investment Return:	8.50% (all plans)
Payroll Growth:	4.50% (all plans)
Inflation:	3.00% (all plans)
Salary Increases:	<u>MSRS</u> : 0.60%* (5 - T), T is completed years of service added to the ultimate rate. Also, lower the ultimate salary scale by 1.00% for all ages.
	<u>PERA</u> : 0.60%* (5 - T), T is completed years of service added to the ultimate rate. Also, lower the ultimate salary scale by 1.00% for all ages.
	<u>TRA</u> : 0.30%* (10 - T), T is completed years of service added to the ultimate rate. Also, lower the ultimate salary scale by 0.50% for all ages.

It should be noted that even though all of the actuarial firms found the 8.5% interest rate assumption to be reasonable, they all felt it was the highest rate that they could support. Additionally, it was felt that a payroll growth assumption of 4.5% was the highest supportable rate.

There was a brief discussion about the demographic assumptions and methods. The following represents the consensus of the group relative to these.

Withdrawal*:	<u>MSRS</u> : Decrease female rates for ages 35 - 54
Disability*:	<u>MSRS</u> : Increase rates for ages 50 - 65
Retirement*:	<u>MSRS</u> : Rule of 90, decrease rates for ages 55 - 60
	<u>PERA</u> : Rule of 90, decrease rates for ages 55 - 61 and 63 - 64. Also, lowering the rates for all other retirements for ages 61 and 62.
	<u>TRA</u> : Rule of 90, increase rates for ages 56 and 57, decrease rates for all other retirement rates for ages 55 - 59, 61 and 65.
Healthy/Disabled Mortality:	No change for all plans

*\*Detailed rates are contained in The Segal Company experience studies performed for the period July 1, 2000 through June 30, 2004.*

February 7, 2007  
Page 4

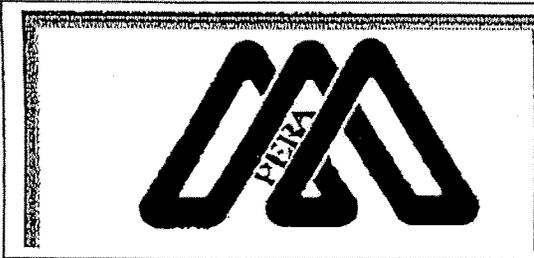
Market Value of Assets: Use Market Value of Active and Post Fund for asset calculation. Immediately recognize all deferred investment gains in the Active Fund as of July 1, 2007, thereafter smooth investment gains/losses over 5 years.

The call adjourned at approximately 2:30 p.m. CST.

This memo has been reviewed by the three actuarial firms listed above and all firms concur with its contents.

al/jz/jls

cc: All participants listed above.



## Public Employees Retirement Association (PERA)

60 Empire Drive - Suite 200

St. Paul, MN 55103-2088

Member Services: (651) 296-7460 or Toll Free 1-800-652-9026

Member Fax: (651) 297-2547

Employer Services: (651) 296-3636 or Toll Free 1-888-892-PERA

Employer Fax: (651) 296-2493

Website: [www.mnpera.org](http://www.mnpera.org)

### FAX TRANSMITTAL

To: Larry Martin

Date: March 30, 2007

Firm/Unit: LCPR

Fax Number:

Number Of Pages (Including Transmittal Sheet) : 3

From: Mary Most Vanek

Phone No.: (61) 296-8358

If Urgent, Check Box

Message::

Larry,

I forgot to provide this to you when I faxed to your office the memo from The Segal Company regarding the three statewide plans' recommended assumption changes.

While I have yet to run this by Segal, which I will send out a request to do today, our actuary is recommending that we also need to change our payroll growth assumption in our public safety plans (to comply with GASB and follow the bigger plan recommendation) and a change to our salary growth assumptions which is warranted based on experience and which will help offset the cost increase related to the payroll growth assumption change. Any questions, please call. MMV

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LCPR MAR 30 2007

# MERCER

Human Resource Consulting

333 South 7th Street, Suite 1600  
Minneapolis, MN 55402-2427  
612 642 8600 Fax 612 642 8686  
www.mercerHR.com

February 9, 2007

Ms. Mary Most Vanek  
Executive Director  
Public Employees Ret. Assoc. of MN  
60 Empire Drive, Suite 200  
St. Paul, MN 55103

Subject:

## **Economic Assumptions -- Public Safety Plans**

Dear Mary:

Recently, after a thorough review, the following economic assumptions were agreed upon for the Public Employees Retirement Fund.

- Discount rate – 8.50%
- Inflation – 3.00%
- Payroll Growth – 4.50%
- Salary Scale – adjust current ultimate rates downward by 100 basis points at every age

The discount rate, inflation, and payroll growth assumptions shown above are appropriate for the Police and Fire Plan and the Local Correctional Plan. Since salary scale assumptions vary by plan, we have reviewed salary experience for the public safety plans. The purpose of this letter is to recommend salary scale assumptions based on that review.

### **Police and Fire Plan**

The 1997 to 2001 experience study showed that salary increases were consistently lower than expected during that four year period. Since then, the plan has continued to experience salary gains. Based on this experience, we recommend that the current salary scale rates be dropped by 50 basis points at each age. Although actual salary increases have been even lower in past years, we feel that a 50 basis point adjustment is most appropriate in relationship to the other economic assumptions.

In our December 6, 2006 letter to you, we provided the funding ratio and required contribution as of July 1, 2006 based on merging the post fund and active fund, using the market value of assets, changing payroll growth from 6.0% to 4.5%, and dropping salary increase rates by 50 basis points. The funding ratio was 92.0% and the required contribution was 26.0%. If the unfunded liability is amortized over 30 years instead of 19 years, the required contribution is 24.9%.

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Human Resource Consulting

Page 2

February 9, 2007

Ms. Mary Vanek

Public Employees Ret. Assoc. of MN

## **Local Correctional Plan**

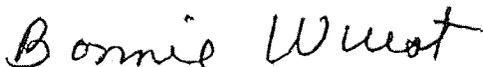
The Local Correctional Plan became effective July 1, 1999. We reviewed past valuations to determine whether there has been a pattern of significant gains or losses for salary experience that would support a change in assumed salary growth. There have been more salary losses than gains in the history of the plan, and the gains and losses have been relatively insignificant. We propose that the current salary scale rates continue to be used until a more comprehensive experience study is done for this plan.

As of July 1, 2006, based on merging the post fund and active fund, using the market value of assets, and changing payroll growth from 6.0% to 4.5%, the funding ratio is 98.2% and the required contribution is 12.4%.

All values were determined as of July 1, 2006 using the participant data, assumptions, methods, and plan provisions in effect at that time (except as noted) as summarized in the 2006 valuation report.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details, as may be appropriate. The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, the undersigned credentialed actuary meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c).

Sincerely,



Bonnie Wurst, ASA

Copy:

Steve McElhaney, Jeremy Palm, Sheri Wroblewski – Mercer

Enclosure

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

# MERCER

Human Resource Consulting

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www.mercerHR.com

April 12, 2007

Mr. Dave Bergstrom  
Executive Director  
MN State Retirement System  
60 Empire Drive, Suite 300  
St. Paul, MN 55103

Subject:

## **Economic Assumptions – Correctional and State Patrol**

Dear Dave:

Recently, after a thorough review, the following economic assumptions were agreed upon for the State Employees Retirement Fund.

- Discount rate – 8.50%
- Inflation – 3.00%
- Payroll Growth – 4.50%
- Salary Scale – adjust current ultimate rates downward by 100 basis points at every age

The discount rate, inflation, and payroll growth assumptions shown above are appropriate for the Correctional Plan and the State Patrol Plan. Since salary scale assumptions vary by plan, we have separately reviewed salary experience. The purpose of this letter is to recommend salary scale assumptions based on that review.

### **Correctional Plan**

The 1998 to 2003 experience study showed that salary increases were consistently lower than expected during that five year period. Since then, the plan has continued to experience salary gains. Based on this experience, we recommend that the current salary scale rates be dropped by 50 basis points at each age. Although actual salary increases have been even lower in past years, we feel that a 50 basis point adjustment is most appropriate in relationship to the other economic assumptions.

In our December 6, 2006 letter to you, we provided the funding ratio and required contribution as of July 1, 2006 based on merging the post fund and active fund, using the market value of assets, changing payroll growth from 5.0% to 4.5%, and dropping salary increase rates by 50 basis points. The funding ratio was 80.4% and the required contribution was 23.3%. If the unfunded liability is amortized over 30 years instead of 18 years, the required contribution is 21.6%

# MERCER

Human Resource Consulting

Page 2

April 12, 2007

Mr. Dave Bergstrom

MN State Retirement System

## **State Patrol Plan**

The 1998 to 2003 experience study showed that salary increases were lower than expected for members age 30 and older and greater than expected for the under 30 group during that five year period. Although the plan has experienced salary gains, the gains have not been as large as other plans have experienced. Based on this experience, we recommend that the current salary scale rates continue to be used. Although actual salary increases have been lower than expected in past years, we feel that the current table is most appropriate in relationship to the other economic assumptions.

As of July 1, 2006, based on merging the post fund and active fund, using the market value of assets, and changing payroll growth from 5.0% to 4.5%, the funding ratio is 90.0% and the required contribution is 30.9%.

All values were determined as of July 1, 2006 using the participant data, assumptions, methods, and plan provisions in effect at that time (except as noted) as summarized in the 2006 valuation report.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details, as may be appropriate. The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, the undersigned credentialed actuary meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c).

Sincerely,



Bonnie Wurst, ASA

Copy:

Steve McElhaney, Jeremy Palm, Sheri Wroblewski – Mercer

Enclosure

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.



TABLE 7  
1996-2000

STATE EMPLOYEES RETIREMENT FUND  
1996-2000 ANNUITANT AND SURVIVOR MORTALITY

Age	Males			Females		
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	1	0.5	208%	1	0.6	167%
55-59	13	9.3	140%	9	4.5	201%
60-64	41	48.3	85%	25	17.9	140%
65-69	113	133.5	85%	58	50.9	114%
70-74	202	217.4	93%	124	100.3	124%
75-79	272	274.9	99%	177	167.3	106%
80-84	270	274.5	98%	222	233.0	95%
85-89	216	192.8	112%	257	216.8	119%
90-94	94	100.0	94%	186	135.7	137%
95+	44	32.6	135%	86	69.4	124%
ALL	1,266	1,283.8	99%	1,145	996.4	115%
65-84	857	900.3	95%	581	551.5	105%

Total

Age	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	2	1.1	185%
55-59	22	13.8	160%
60-64	66	66.2	100%
65-69	171	184.4	93%
70-74	326	317.7	103%
75-79	449	442.2	102%
80-84	492	507.5	97%
85-89	473	409.5	115%
90-94	280	235.7	119%
95+	130	102.1	127%
ALL	2,411	2,280.2	106%
65-84	1,438	1,451.9	99%



TABLE 7  
1996-1997

STATE EMPLOYEES RETIREMENT FUND  
1996-1997 ANNUITANT AND SURVIVOR MORTALITY

Age	Males			Females		
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.1	0%	0	0.1	0%
55-59	4	2.1	193%	2	0.9	214%
60-64	8	11.9	67%	11	4.0	276%
65-69	29	32.1	90%	15	12.7	118%
70-74	47	53.5	88%	35	24.2	144%
75-79	65	66.1	98%	44	40.2	110%
80-84	63	63.6	99%	54	56.6	95%
85-89	58	46.9	124%	51	47.2	108%
90-94	17	21.0	81%	50	32.4	154%
95+	5	7.9	63%	26	18.0	145%
ALL	296	305.1	97%	288	236.3	122%
65-84	204	215.3	95%	148	133.7	111%

Total

Age	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.2	0%
55-59	6	3.0	200%
60-64	19	15.8	120%
65-69	44	44.7	98%
70-74	82	77.7	105%
75-79	109	106.3	103%
80-84	117	120.3	97%
85-89	109	94.1	116%
90-94	67	53.3	126%
95+	31	25.8	120%
ALL	584	541.3	108%
65-84	352	349.0	101%



TABLE 7  
1997-1998

STATE EMPLOYEES RETIREMENT FUND  
1997-1998 ANNUITANT AND SURVIVOR MORTALITY

Age	Males			Females		
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.1	0%	0	0.2	0%
55-59	2	2.1	96%	3	1.0	300%
60-64	7	11.6	60%	8	4.3	186%
65-69	27	33.2	81%	12	12.5	96%
70-74	53	54.2	98%	35	25.1	140%
75-79	73	67.7	108%	49	40.8	120%
80-84	76	67.6	112%	59	59.1	100%
85-89	44	47.8	92%	61	51.0	120%
90-94	23	21.7	106%	42	32.4	130%
95+	9	9.6	94%	22	16.3	135%
ALL	314	315.6	99%	291	242.7	120%
65-84	229	222.7	103%	155	137.5	113%

Total

Age	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.3	0%
55-59	5	3.1	162%
60-64	15	15.9	94%
65-69	39	45.7	85%
70-74	88	79.3	111%
75-79	122	108.5	112%
80-84	135	126.8	107%
85-89	105	98.8	106%
90-94	65	54.1	120%
95+	31	25.9	120%
ALL	605	558.3	108%
65-84	384	360.3	107%



TABLE 7  
1998-1999

STATE EMPLOYEES RETIREMENT FUND  
1998-1999 ANNUITANT AND SURVIVOR MORTALITY

Age	Males			Females		
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	1	0.1	752%	1	0.2	634%
55-59	4	2.4	170%	1	1.2	84%
60-64	13	12.3	105%	0	4.6	0%
65-69	34	33.5	102%	13	12.7	102%
70-74	52	54.9	95%	33	25.3	131%
75-79	59	68.9	86%	53	42.7	124%
80-84	80	70.7	113%	48	58.1	83%
85-89	59	49.1	120%	72	57.8	125%
90-94	25	26.8	93%	42	33.4	126%
95+	18	8.7	206%	18	16.6	108%
ALL	345	327.4	105%	281	252.6	111%
65-84	225	227.9	99%	147	138.9	106%

Total

Age	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	2	0.3	688%
55-59	5	3.5	141%
60-64	13	16.9	77%
65-69	47	46.2	102%
70-74	85	80.1	106%
75-79	112	111.6	100%
80-84	128	128.8	99%
85-89	131	106.9	123%
90-94	67	60.2	111%
95+	36	25.3	142%
ALL	626	580.0	108%
65-84	372	366.7	101%



TABLE 7  
1999-2000

STATE EMPLOYEES RETIREMENT FUND  
1999-2000 ANNUITANT AND SURVIVOR MORTALITY

Age	Males			Females		
	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.2	0%	0	0.1	0%
55-59	3	2.8	108%	3	1.4	220%
60-64	13	12.5	104%	6	5.0	120%
65-69	23	34.8	66%	18	13.0	139%
70-74	50	54.8	91%	21	25.7	82%
75-79	75	72.2	104%	31	43.6	71%
80-84	51	72.5	70%	61	59.1	103%
85-89	55	48.9	112%	73	60.8	120%
90-94	29	30.5	95%	52	37.5	139%
95+	12	6.4	187%	20	18.6	108%
ALL	311	335.7	93%	285	264.8	108%
65-84	199	234.4	85%	131	141.5	93%

Total

Age	<u>Actual</u>	<u>Expected</u>	<u>Actual/Expected</u>
<55	0	0.3	0%
55-59	6	4.1	145%
60-64	19	17.5	109%
65-69	41	47.8	86%
70-74	71	80.6	88%
75-79	106	115.8	91%
80-84	112	131.6	85%
85-89	128	109.7	117%
90-94	81	68.0	119%
95+	32	25.0	128%
ALL	596	600.6	99%
65-84	330	375.9	88%

### III. DEMOGRAPHIC ASSUMPTIONS (continued)

#### D. Mortality Rates – Post-Retirement

The post-retirement mortality rates used in actuarial valuations project the percentage of beneficiaries and non-disabled retirees who are expected to die in the upcoming year.

#### Current Actuarial Assumptions

The mortality table for male beneficiaries and non-disabled retirees used for the July 1, 2004 actuarial valuation is the 1983 Group Annuity Mortality (GAM) Table for males, set back two years. The mortality table for female beneficiaries and non-disabled retirees is the 1983 Group Annuity Mortality (GAM) Table for females, set back one year. The mortality rates are shown below for selected ages:

**Mortality Rates**

Age	Male	Female
50	0.31%	0.15%
55	0.52%	0.23%
60	0.77%	0.38%
65	1.24%	0.64%
70	2.22%	1.09%
75	3.67%	2.11%
80	6.07%	3.85%
85	9.75%	6.38%
90	14.41%	10.14%
95	20.30%	16.51%
100	28.08%	26.82%

### III. DEMOGRAPHIC ASSUMPTIONS (continued)

#### D. Mortality Rates – Post-Retirement (continued)

The tables below and on the next page summarize the total number of deaths in each age group, the actual average number and the expected average number based on the assumed mortality rates for male and female participants.

#### Male

Age Group	Number of Deaths Fiscal Year Ended June 30*				Average Per Year		
	2001	2002	2003	2004	Actual	Expected	Ratio
50 – 55	2	0	0	1	1	0	--
55 – 60	4	13	4	3	6	3	2.00
60 – 65	14	18	17	21	18	13	1.38
65 – 70	46	46	35	52	45	32	1.41
70 – 75	87	75	61	74	74	51	1.45
75 – 80	103	85	104	94	97	70	1.39
80 – 85	105	115	91	117	107	76	1.41
85 – 90	72	69	70	80	73	56	1.30
90 – 95	40	35	43	34	38	28	1.36
95 – 100	4	7	10	18	10	8	1.25
<b>Total</b>	<b>477</b>	<b>463</b>	<b>435</b>	<b>494</b>	<b>469</b>	<b>337</b>	<b>1.39</b>

\* Death counts not reconciled with Fund data.

**III. DEMOGRAPHIC ASSUMPTIONS (continued)**

**D. Mortality Rates – Post-Retirement (continued)**

**Female**

Age Group	Number of Deaths Fiscal Year Ended June 30*				Average Per Year		
	2001	2002	2003	2004	Actual	Expected	Ratio
50 – 55	0	1	0	1	1	0	--
55 – 60	3	2	1	8	4	2	2.00
60 – 65	6	10	8	14	10	6	1.67
65 – 70	18	24	13	13	17	14	1.21
70 – 75	31	31	40	31	33	27	1.22
75 – 80	46	56	50	44	49	48	1.02
80 – 85	73	80	69	54	69	65	1.06
85 – 90	84	74	80	77	79	69	1.14
90 – 95	56	43	60	49	52	43	1.21
95 – 100	21	21	22	26	23	19	1.21
<b>Total</b>	<b>338</b>	<b>342</b>	<b>343</b>	<b>317</b>	<b>337</b>	<b>293</b>	<b>1.15</b>

\* Death counts not reconciled with Fund data.

### III. DEMOGRAPHIC ASSUMPTIONS (continued)

#### D. Mortality Rates – Post-Retirement (continued)

The tables below and on the next page summarize the actual, expected and recommended post-retirement mortality rates for male and female participants for selected ages.

#### Male

Age Group	Actual*	Average Expected	Ratio	Average Recommended
50 – 55	2.36%	0.41%	--	0.41%
55 – 60	1.13%	0.65%	2.00	0.65%
60 – 65	1.28%	0.95%	1.38	0.95%
65 – 70	2.21%	1.59%	1.41	1.59%
70 – 75	3.98%	2.74%	1.45	2.74%
75 – 80	6.16%	4.47%	1.39	4.47%
80 – 85	10.25%	7.29%	1.41	7.29%
85 – 90	14.46%	11.14%	1.30	11.14%
90 – 95	22.00%	16.27%	1.36	16.27%
95 – 100	25.49%	22.02%	1.25	22.02%

\* Death counts not reconciled with Fund data.

**III. DEMOGRAPHIC ASSUMPTIONS (continued)**

**D. Mortality Rates – Post-Retirement (continued)**

**Female**

<b>Age Group</b>	<b>Actual*</b>	<b>Average Expected</b>	<b>Ratio</b>	<b>Average Recommended</b>
50 – 55	0.58%	0.19%	--	0.19%
55 – 60	0.63%	0.30%	2.00	0.30%
60 – 65	0.74%	0.49%	1.67	0.49%
65 – 70	0.94%	0.79%	1.21	0.79%
70 – 75	1.80%	1.44%	1.22	1.44%
75 – 80	2.80%	2.72%	1.02	2.72%
80 – 85	5.00%	4.72%	1.06	4.72%
85 – 90	8.63%	7.58%	1.14	7.58%
90 – 95	14.40%	11.85%	1.21	11.85%
95 – 100	22.73%	19.33%	1.21	19.33%

\* *Death counts not reconciled with Fund data.*

### III. DEMOGRAPHIC ASSUMPTIONS (continued)

#### D. Mortality Rates – Post-Retirement (continued)

##### Findings and Recommendations

Post-Retirement experience was similar for males and females. According to Segal's death data, the current mortality assumption overstated both male experience and female experience. However, we could not reconcile the reported death counts with the Fund data, therefore, we do not recommend changing the mortality rates at this time.

We recommend the continued use of the 1983 GAM table set back two years for males and one year for females. We will monitor future mortality experience of the entire membership group and recommend adjustments as necessary.

The complete tables of recommended mortality rates for non-disabled retirees are shown in Appendix E.

The actual/expected ratios of the recommended assumptions are as follows:

Males:	139.2%
Females:	115.0%

\_\_\_\_\_ moves that the Legislative Commission on Pensions and Retirement approve, in accord with its authority under Minnesota Statutes, Section 356.215, Subdivision 18, the following actuarial assumption changes:

Withdrawal Rates

General State Employees Retirement Plan of the Minnesota State Retirement System

Select period and ultimate period rates, as follows:

**Select Period**

Years of Service	Males	Females
0-1	45%	48%
1-2	14%	15%
2-3	9%	10%

**Ultimate Period**

Age	Male	Female
20	6.90%	8.55%
21	6.70%	8.40%
22	6.50%	8.25%
23	6.30%	8.10%
24	6.10%	7.95%
25	5.90%	7.80%
26	5.70%	7.65%
27	5.50%	7.50%
28	5.30%	7.35%
29	5.10%	7.20%
30	4.90%	7.05%
31	4.70%	6.90%
32	4.50%	6.75%
33	4.30%	6.60%
34	4.10%	6.45%
35	3.90%	5.10%
36	3.70%	4.93%
37	3.50%	4.75%

Age	Male	Female
38	3.40%	4.63%
39	3.30%	4.50%
40	3.20%	4.38%
41	3.10%	4.25%
42	3.00%	4.13%
43	2.90%	4.00%
44	2.80%	3.88%
45	2.70%	3.75%
46	2.60%	3.63%
47	2.50%	3.50%
48	2.40%	3.35%
49	2.30%	3.20%
50	2.20%	3.05%
51	2.10%	2.90%
52	2.00%	2.75%
53	1.90%	2.60%
54	1.80%	2.45%

Disability Incidence Rates

General State Employees Retirement Plan of the Minnesota State Retirement System

Age	Male	Female
20	0.000100	0.000100
21	0.000100	0.000100
22	0.000100	0.000100
23	0.000100	0.000100
24	0.000100	0.000100
25	0.000100	0.000100
26	0.000100	0.000100
27	0.000100	0.000100
28	0.000100	0.000100
29	0.000100	0.000100
30	0.000100	0.000100
31	0.000100	0.000100
32	0.000100	0.000100
33	0.000100	0.000100
34	0.000200	0.000200
35	0.000300	0.000300
36	0.000400	0.000400
37	0.000500	0.000500
38	0.000600	0.000600
39	0.000700	0.000700
40	0.000800	0.000800
41	0.000900	0.000900
42	0.001000	0.001000

Age	Male	Female
43	0.001100	0.001100
44	0.001200	0.001200
45	0.001300	0.001300
46	0.001400	0.001400
47	0.001500	0.001500
48	0.001800	0.001800
49	0.002100	0.002100
50	0.002880	0.002880
51	0.003240	0.003240
52	0.003600	0.003600
53	0.004080	0.003840
54	0.004560	0.004080
55	0.005040	0.004320
56	0.005520	0.004560
57	0.006000	0.004800
58	0.006600	0.005280
59	0.007200	0.005760
60	0.007800	0.006240
61	0.008400	0.006720
62	0.009000	0.007200
63	0.009600	0.007680
64	0.010200	0.008160
65	0.000000	0.000000

Retirement Rates

General State Employees Retirement Plan of the Minnesota State Retirement System

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
55	25%	5%
56	20%	5%
57	20%	5%
58	20%	5%
59	20%	5%
60	20%	10%
61	25%	10%
62	50%	25%
63	40%	20%

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
64	40%	20%
65	45%	45%
66	30%	30%
67	30%	30%
68	30%	30%
69	30%	30%
70	30%	30%
71	100%	100%

General Employees Retirement Plan of the Public Employees Retirement Association

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
55	30%	7%
56	25%	7%
57	25%	7%
58	25%	7%
59	25%	9%
60	25%	9%
61	30%	15%
62	40%	22%
63	30%	20%

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
64	30%	20%
65	40%	40%
66	25%	25%
67	25%	25%
68	25%	25%
69	25%	25%
70	25%	25%
71	100%	100%

Teachers Retirement Association

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
55	50%	7%
56	60%	7%
57	55%	7%
58	50%	8%
59	50%	10%
60	50%	12%
61	50%	18%
62	50%	20%
63	50%	20%

<b>Age</b>	<b>Rule of 90 Retirement Rate</b>	<b>All Other Retirement Rate</b>
64	50%	20%
65	50%	45%
66	35%	35%
67	35%	35%
68	35%	35%
69	35%	35%
70	35%	35%
71	100%	100%

1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:

1.2 Page 1, after line 5, insert:

1.3 "Section 1. Minnesota Statutes 2006, section 11A.18, subdivision 7, is amended to read:

1.4 Subd. 7. **Participation and financial reporting in fund.** (a) Each participating  
1.5 public retirement fund or plan which has transferred money to the state board for  
1.6 investment in the postretirement investment fund ~~shall have~~ has an undivided participation  
1.7 in the fund. The participation on any valuation date must be determined by adding to the  
1.8 participation on the prior valuation date:

- 1.9 (1) funds transferred in accordance with subdivision 6;
- 1.10 (2) the amount of required investment income on its participation as defined in  
1.11 subdivision 9, paragraph (c), clause (1); and
- 1.12 (3) the reserves for any benefit adjustment made as of the current valuation date with  
1.13 the result adjusted for any mortality gains or losses determined under subdivision 11.

1.14 (b) The total fair market value of the postretirement fund as of June 30 must be  
1.15 calculated in accordance with generally accepted accounting principles. The fair market  
1.16 value share of each fund participating in the postretirement investment fund must be  
1.17 allocated by adding to the fair market value at the beginning of the fiscal year:

- 1.18 (1) 100 percent of the funds transferred in accordance with subdivision 6; and
- 1.19 (2) a pro rata distribution of unrealized gains or losses, based on a weighted  
1.20 percentage of participation at the end of each month of the fiscal year.

1.21 (c) The actuarial value of the postretirement fund for purposes of annual financial  
1.22 reporting under section 356.20 must be calculated as provided in section 356.215,  
1.23 subdivision 1, paragraph (f)."

1.24 Page 6, line 4, after "means" insert "for all assets for the retirement plan, including  
1.25 any participation in the Minnesota postretirement investment fund or in the retirement  
1.26 benefit fund"

1.27 Renumber the sections in sequence and correct the internal references

2.1 Amend the title accordingly

1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:

1.2 Page 1, after line 5, insert:

1.3 "Section 1. Minnesota Statutes 2006, section 11A.18, subdivision 7, is amended to read:

1.4 Subd. 7. **Participation and financial reporting in fund.** (a) Each participating  
1.5 public retirement fund or plan which has transferred money to the state board for  
1.6 investment in the postretirement investment fund ~~shall have~~ has an undivided participation  
1.7 in the fund. The participation on any valuation date must be determined by adding to the  
1.8 participation on the prior valuation date:

1.9 (1) funds transferred in accordance with subdivision 6;

1.10 (2) the amount of required investment income on its participation as defined in  
1.11 subdivision 9, paragraph (c), clause ~~(1)~~ (8); and

1.12 (3) the reserves for any benefit adjustment made as of the current valuation date with  
1.13 the result adjusted for any mortality gains or losses determined under subdivision 11.

1.14 (b) The total fair market value of the postretirement fund as of June 30 must be  
1.15 calculated in accordance with generally accepted accounting principles. The fair market  
1.16 value share of each fund participating in the postretirement investment fund must be  
1.17 allocated by adding to the fair market value at the beginning of the fiscal year:

1.18 (1) 100 percent of the funds transferred in accordance with subdivision 6; and

1.19 (2) a pro rata distribution of unrealized gains or losses, based on a weighted  
1.20 percentage of participation at the end of each month of the fiscal year.

1.21 (c) The actuarial value of the postretirement fund for purposes of annual financial  
1.22 reporting under section 356.20 must be calculated as provided in section 356.215,  
1.23 subdivision 1, paragraph (f)."

1.24 Page 6, line 4, after "means" insert "for all assets for the retirement plan, including  
1.25 any participation in the Minnesota postretirement investment fund or in the retirement  
1.26 benefit fund"

2.1 Page 7, line 35, after "costs" insert "for annual financial reporting purposes and  
2.2 reduced by the sum of the current actuarial value of assets not transferred to the Minnesota  
2.3 postretirement investment fund or to the retirement benefit fund, by the required reserves  
2.4 of annuities or benefits payable from the Minnesota postretirement investment fund or  
2.5 from the retirement benefit fund, and by the present value of future normal costs for  
2.6 actuarial valuation supplemental information purposes under subdivision 10a"

2.7 Page 8, after line 28, insert:

2.8 "Sec. 5. Minnesota Statutes 2006, section 356.215, is amended by adding a subdivision  
2.9 to read:

2.10 Subd. 10a. **Unfunded actuarial accrued liability.** In addition to calculating  
2.11 the unfunded actuarial accrued liability of the retirement plan for financial reporting  
2.12 purposes under subdivision 10, the valuation must also include a calculation of the  
2.13 unfunded actuarial accrued liability of the retirement plan for purposes of determining  
2.14 the amortization contribution sufficient to amortize the unfunded actuarial liability not  
2.15 otherwise funded by any other mechanism. For this exhibit, the calculation must be the  
2.16 unfunded actuarial accrued liability net of the postretirement adjustment liability funded  
2.17 from the investment performance of the Minnesota postretirement investment fund or the  
2.18 retirement benefit fund.

2.19 Sec. 6. Minnesota Statutes 2006, section 356.215, subdivision 11, is amended to read:

2.20 Subd. 11. **Amortization contributions.** (a) In addition to the exhibit indicating  
2.21 the level normal cost, the actuarial valuation of the retirement plan must contain an  
2.22 exhibit indicating the additional annual contribution sufficient to amortize the unfunded  
2.23 actuarial accrued liability for financial reporting purposes and an exhibit indicating the  
2.24 additional contribution sufficient to amortize the unfunded actuarial accrued liability for  
2.25 contribution determination purposes. For ~~funds~~ the retirement plans governed by chapters  
2.26 3A, 352, 352B, 352C, 353, 354, 354A, and 490, the additional contribution exhibits must  
2.27 be calculated on a level percentage of covered payroll basis by the established date for  
2.28 full funding in effect when the valuation is prepared. For ~~funds~~ the retirement plans  
2.29 governed by chapter 3A, sections 352.90 through 352.951, chapters 352B, 352C, sections  
2.30 353.63 through 353.68, and chapters 353C, 354A, and 490, the level percent additional  
2.31 contribution must be calculated assuming annual payroll growth of 6.5 percent. For ~~funds~~  
2.32 the retirement plans governed by sections 352.01 through 352.86 and chapter 354, the  
2.33 level percent additional contribution must be calculated assuming an annual payroll  
2.34 growth of five percent. For the ~~fund~~ retirement plan governed by sections 353.01 through  
2.35 353.46, the level percent additional contribution must be calculated assuming an annual

3.1 payroll growth of six percent. For all other ~~funds~~ retirement plans, the additional annual  
3.2 contribution must be calculated on a level annual dollar amount basis.

3.3 (b) For any ~~fund~~ retirement plan other than the Minneapolis Employees Retirement  
3.4 Fund and the general employees retirement plan of the Public Employees Retirement  
3.5 Association ~~general plan~~, if there has not been a change in the actuarial assumptions  
3.6 used for calculating the actuarial accrued liability of the fund, a change in the benefit  
3.7 plan governing annuities and benefits payable from the fund, a change in the actuarial  
3.8 cost method used in calculating the actuarial accrued liability of all or a portion of the  
3.9 fund, or a combination of the three, which change or changes by itself or by themselves  
3.10 without inclusion of any other items of increase or decrease produce a net increase in the  
3.11 unfunded actuarial accrued liability of the fund, the established date for full funding is the  
3.12 first actuarial valuation date occurring after June 1, 2020.

3.13 (c) For any ~~fund or~~ retirement plan other than the Minneapolis Employees  
3.14 Retirement Fund and the general employees retirement plan of the Public Employees  
3.15 Retirement Association ~~general plan~~, if there has been a change in any or all of the  
3.16 actuarial assumptions used for calculating the actuarial accrued liability of the fund, a  
3.17 change in the benefit plan governing annuities and benefits payable from the fund, a  
3.18 change in the actuarial cost method used in calculating the actuarial accrued liability of all  
3.19 or a portion of the fund, or a combination of the three, and the change or changes, by itself  
3.20 or by themselves and without inclusion of any other items of increase or decrease, produce  
3.21 a net increase in the unfunded actuarial accrued liability in the fund, the established date  
3.22 for full funding must be determined using the following procedure:

3.23 (i) the unfunded actuarial accrued liability of the fund must be determined in  
3.24 accordance with the plan provisions governing annuities and retirement benefits and the  
3.25 actuarial assumptions in effect before an applicable change;

3.26 (ii) the level annual dollar contribution or level percentage, whichever is applicable,  
3.27 needed to amortize the unfunded actuarial accrued liability amount determined under item  
3.28 (i) by the established date for full funding in effect before the change must be calculated  
3.29 using the interest assumption specified in subdivision 8 in effect before the change;

3.30 (iii) the unfunded actuarial accrued liability of the fund must be determined in  
3.31 accordance with any new plan provisions governing annuities and benefits payable from  
3.32 the fund and any new actuarial assumptions and the remaining plan provisions governing  
3.33 annuities and benefits payable from the fund and actuarial assumptions in effect before  
3.34 the change;

3.35 (iv) the level annual dollar contribution or level percentage, whichever is applicable,  
3.36 needed to amortize the difference between the unfunded actuarial accrued liability amount

4.1 calculated under item (i) and the unfunded actuarial accrued liability amount calculated  
4.2 under item (iii) over a period of 30 years from the end of the plan year in which the  
4.3 applicable change is effective must be calculated using the applicable interest assumption  
4.4 specified in subdivision 8 in effect after any applicable change;

4.5 (v) the level annual dollar or level percentage amortization contribution under item  
4.6 (iv) must be added to the level annual dollar amortization contribution or level percentage  
4.7 calculated under item (ii);

4.8 (vi) the period in which the unfunded actuarial accrued liability amount determined  
4.9 in item (iii) is amortized by the total level annual dollar or level percentage amortization  
4.10 contribution computed under item (v) must be calculated using the interest assumption  
4.11 specified in subdivision 8 in effect after any applicable change, rounded to the nearest  
4.12 integral number of years, but not to exceed 30 years from the end of the plan year in  
4.13 which the determination of the established date for full funding using the procedure set  
4.14 forth in this clause is made and not to be less than the period of years beginning in the  
4.15 plan year in which the determination of the established date for full funding using the  
4.16 procedure set forth in this clause is made and ending by the date for full funding in effect  
4.17 before the change; and

4.18 (vii) the period determined under item (vi) must be added to the date as of which  
4.19 the actuarial valuation was prepared and the date obtained is the new established date  
4.20 for full funding.

4.21 (d) For the Minneapolis Employees Retirement Fund, the established date for full  
4.22 funding is June 30, 2020.

4.23 (e) For the general employees retirement plan of the Public Employees Retirement  
4.24 Association, the established date for full funding is June 30, 2031.

4.25 (f) For the Teachers Retirement Association, the established date for full funding is  
4.26 June 30, 2037.

4.27 (g) For the retirement plans for which the annual actuarial valuation indicates an  
4.28 excess of valuation assets over the actuarial accrued liability, the valuation assets in  
4.29 excess of the actuarial accrued liability must be recognized as a reduction in the current  
4.30 contribution requirements by an amount equal to the amortization of the excess expressed  
4.31 as a level percentage of pay over a 30-year period beginning anew with each annual  
4.32 actuarial valuation of the plan."

4.33 Renumber the sections in sequence and correct the internal references

4.34 Amend the title accordingly

- 1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:
- 1.2 Page 6, line 4, delete "Actuarial" and strike the colon
- 1.3 Page 6, line 5, strike "(1) for the July 1," and delete "2007" and strike ", actuarial
- 1.4 valuation,"
- 1.5 Page 6, line 6, strike the comma and delete "2007;" and insert a period
- 1.6 Page 6, delete lines 9 to 14
- 1.7 Page 6, lines 15 to 35, delete the new language and strike the old language
- 1.8 Page 7, lines 1 to 32, delete the new language and strike the old language

1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:

1.2 Page 1, after line 5, insert:

1.3 "Section 1. Minnesota Statutes 2006, section 11A.18, subdivision 9, is amended to read:

1.4 Subd. 9. **Calculation of postretirement adjustment.** (a) Annually, following June  
1.5 30, the state board shall use the procedures in paragraphs (b), (c), and (d) to determine  
1.6 whether a postretirement adjustment is payable and to determine the amount of any  
1.7 postretirement adjustment.

1.8 (b) If the Consumer Price Index for urban wage earners and clerical workers all  
1.9 items index published by the Bureau of Labor Statistics of the United States Department  
1.10 of Labor increases from June 30 of the preceding year to June 30 of the current year,  
1.11 the state board shall certify the percentage increase. The amount certified must not  
1.12 exceed ~~the lesser of the difference between the preretirement interest assumption and~~  
1.13 ~~postretirement interest assumption in section 356.215, subdivision 8, paragraph (a), or~~  
1.14 2.5 percent. For the Minneapolis Employees Retirement Fund, the amount certified must  
1.15 not exceed 3.5 percent.

1.16 (c) In addition to any percentage increase certified under paragraph (b), the board  
1.17 shall use the following procedures to determine if a postretirement adjustment is payable  
1.18 under this paragraph:

1.19 (1) The state board shall determine the market value of the fund on June 30 of  
1.20 that year;

1.21 (2) The amount of reserves required as of the current June 30 for the annuity or  
1.22 benefit payable to an annuitant and benefit recipient of the participating public pension  
1.23 plans or funds must be determined by the actuary retained under section 356.214. An  
1.24 annuitant or benefit recipient who has been receiving an annuity or benefit for at least 12  
1.25 full months as of the current June 30 is eligible to receive a full postretirement adjustment.  
1.26 An annuitant or benefit recipient who has been receiving an annuity or benefit for at  
1.27 least one full month, but less than 12 full months as of the current June 30, is eligible to

2.1 receive a partial postretirement adjustment. Each fund shall report separately the amount  
2.2 of the reserves for those annuitants and benefit recipients who are eligible to receive  
2.3 a full postretirement benefit adjustment. This amount is known as "eligible reserves."  
2.4 Each fund shall also report separately the amount of the reserves for those annuitants  
2.5 and benefit recipients who are not eligible to receive a postretirement adjustment. This  
2.6 amount is known as "noneligible reserves." For an annuitant or benefit recipient who is  
2.7 eligible to receive a partial postretirement adjustment, each fund shall report separately  
2.8 as additional "eligible reserves" an amount that bears the same ratio to the total reserves  
2.9 required for the annuitant or benefit recipient as the number of full months of annuity  
2.10 or benefit receipt as of the current June 30 bears to 12 full months. The remainder of  
2.11 the annuitant's or benefit recipient's reserves must be separately reported as additional  
2.12 "noneligible reserves." The amount of "eligible" and "noneligible" required reserves  
2.13 must be certified to the board by the actuary retained under section 356.214 as soon as is  
2.14 practical following the current June 30;

2.15 (3) The state board shall ~~determine the percentage increase certified under paragraph~~  
2.16 ~~(b) multiplied by the eligible required reserves, as adjusted for mortality gains and losses~~  
2.17 ~~under subdivision 11, determined under clause (2);~~

2.18 (4) ~~The state board shall add~~ multiply the amount of reserves required for the  
2.19 annuities or benefits payable to annuitants and benefit recipients of the participating public  
2.20 pension plans or funds as of the current June 30 ~~to the amount determined under clause~~  
2.21 ~~(3)~~ by the factor 1.085;

2.22 (5) ~~(4)~~ The state board shall subtract the amount determined under clause ~~(4)~~ (3)  
2.23 from the market value of the fund determined under clause (1);

2.24 (6) (5) The state board shall adjust the amount determined under clause ~~(5)~~ (4) by  
2.25 the cumulative current balance determined under clause ~~(8)~~ (7) and any negative balance  
2.26 carried forward under clause ~~(9)~~ (8);

2.27 (7) (6) A positive amount resulting from the calculations in clauses (1) to ~~(6)~~ (5) is  
2.28 the excess market value. A negative amount is the negative balance;

2.29 (8) (7) The state board shall allocate one-fifth of the excess market value or one-fifth  
2.30 of the negative balance to each of five consecutive years, beginning with the fiscal year  
2.31 ending the current June 30; and

2.32 (9) (8) To calculate the postretirement adjustment under this paragraph based on  
2.33 investment performance for a fiscal year, the state board shall add together all excess  
2.34 market value allocated to that year and subtract from the sum all negative balances  
2.35 allocated to that year. If this calculation results in a negative number, the entire negative  
2.36 balance must be carried forward and allocated to the next year. If the resulting amount is

3.1 positive, a postretirement adjustment is payable under this paragraph. The board shall  
3.2 express a positive amount as a percentage of the total eligible required reserves certified to  
3.3 the board under clause (2).

3.4 (d) The state board shall determine the amount of any postretirement adjustment  
3.5 which is payable using the following procedure:

3.6 (1) The total "eligible" required reserves as of the first of January next following the  
3.7 end of the fiscal year for the annuitants and benefit recipients eligible to receive a full or  
3.8 partial postretirement adjustment as determined by clause (2) must be certified to the state  
3.9 board by the actuary retained under section 356.214. The total "eligible" required reserves  
3.10 must be determined by the actuary retained under section 356.214 on the assumption that  
3.11 all annuitants and benefit recipients eligible to receive a full or partial postretirement  
3.12 adjustment will be alive on the January 1 in question; and

3.13 (2) The state board shall add the percentage certified under paragraph (b) to any  
3.14 positive percentage calculated under paragraph (c). The board shall not subtract from the  
3.15 percentage certified under paragraph (b) any negative amount calculated under paragraph  
3.16 (c). The sum of these percentages must be carried to five decimal places and must be  
3.17 certified to each participating public pension fund or plan as the full postretirement  
3.18 adjustment percentage. The full postretirement adjustment percentage certified to each  
3.19 participating public pension plan or fund must not exceed five percent. For the Minneapolis  
3.20 Employees Retirement Fund, no maximum percentage adjustment is applicable.

3.21 (e) A retirement annuity payable in the event of retirement before becoming eligible  
3.22 for Social Security benefits as provided in section 352.116, subdivision 3; 353.29,  
3.23 subdivision 6; or 354.35 must be treated as the sum of a period certain retirement annuity  
3.24 and a life retirement annuity for the purposes of any postretirement adjustment. The  
3.25 period certain retirement annuity plus the life retirement annuity must be the annuity  
3.26 amount payable until age 62 or 65, whichever applies. A postretirement adjustment  
3.27 granted on the period certain retirement annuity must terminate when the period certain  
3.28 retirement annuity terminates."

3.29 Page 8, after line 28, insert:

3.30 "Sec. 5. Minnesota Statutes 2006, section 356.215, subdivision 8, is amended to read:

3.31 Subd. 8. **Interest and salary assumptions.** (a) The actuarial valuation must use  
3.32 the applicable following preretirement interest assumption and the applicable following  
3.33 postretirement interest assumption:

3.34		preretirement	postretirement
3.35		interest rate	interest rate
3.36	plan	assumption	assumption

4.1	general state employees retirement plan	8.5%	<del>6.0</del> <u>8.5</u> %
4.2	correctional state employees retirement		
4.3	plan	8.5	<del>6.0</del> <u>8.5</u>
4.4	State Patrol retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.5	legislators retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.6	elective state officers retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.7	judges retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.8	general public employees retirement		
4.9	plan	8.5	<del>6.0</del> <u>8.5</u>
4.10	public employees police and fire		
4.11	retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.12	local government correctional service		
4.13	retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.14	teachers retirement plan	8.5	<del>6.0</del> <u>8.5</u>
4.15	Minneapolis employees retirement plan	6.0	<del>5.0</del> <u>8.5</u>
4.16	Duluth teachers retirement plan	8.5	8.5
4.17	St. Paul teachers retirement plan	8.5	8.5
4.18	Minneapolis Police Relief Association	6.0	6.0
4.19	Fairmont Police Relief Association	5.0	5.0
4.20	Minneapolis Fire Department Relief		
4.21	Association	6.0	6.0
4.22	Virginia Fire Department Relief		
4.23	Association	5.0	5.0
4.24	Bloomington Fire Department Relief		
4.25	Association	6.0	6.0
4.26	local monthly benefit volunteer		
4.27	firefighters relief associations	5.0	5.0

4.28 (b) The actuarial valuation must use the applicable following single rate future salary  
 4.29 increase assumption, the applicable following modified single rate future salary increase  
 4.30 assumption, or the applicable following graded rate future salary increase assumption:

4.31 (1) single rate future salary increase assumption

4.32	plan	future salary increase assumption
4.34	legislators retirement plan	5.0%
4.35	elective state officers retirement plan	5.0
4.36	judges retirement plan	5.0
4.37	Minneapolis Police Relief Association	4.0
4.38	Fairmont Police Relief Association	3.5
4.39	Minneapolis Fire Department Relief	
4.40	Association	4.0
4.41	Virginia Fire Department Relief Association	3.5
4.42	Bloomington Fire Department Relief	
4.43	Association	4.0

- 5.1 (2) modified single rate future salary increase assumption
- 5.2 future salary
- 5.3 plan increase assumption
- 5.4 Minneapolis employees the prior calendar year amount
- 5.5 retirement plan increased first by 1.0198 percent to
- 5.6 prior fiscal year date and then increased
- 5.7 by 4.0 percent annually for each future
- 5.8 year
- 5.9 (3) select and ultimate future salary increase assumption or graded rate future salary
- 5.10 increase assumption
- 5.11 future salary
- 5.12 plan increase assumption
- 5.13 general state employees
- 5.14 retirement plan select calculation and assumption A
- 5.15 correctional state employees
- 5.16 retirement plan assumption G
- 5.17 State Patrol retirement plan assumption G
- 5.18 general public employees
- 5.19 retirement plan select calculation and assumption B
- 5.20 public employees police and fire
- 5.21 fund retirement plan assumption C
- 5.22 local government correctional
- 5.23 service retirement plan assumption G
- 5.24 teachers retirement plan assumption D
- 5.25 Duluth teachers retirement plan assumption E
- 5.26 St. Paul teachers retirement plan assumption F
- 5.27 The select calculation is: during the ten-year
- 5.28 select period, a designated percent is
- 5.29 multiplied by the result of ten minus T,
- 5.30 where T is the number of completed years of
- 5.31 service, and is added to the applicable future
- 5.32 salary increase assumption. The designated
- 5.33 percent is 0.2 percent for the correctional
- 5.34 state employees retirement plan, the State
- 5.35 Patrol retirement plan, the public employees
- 5.36 police and fire plan, and the local government
- 5.37 correctional service plan; and 0.3 percent for
- 5.38 the general state employees retirement plan,
- 5.39 the general public employees retirement
- 5.40 plan, the teachers retirement plan, the Duluth
- 5.41 Teachers Retirement Fund Association,

6.1 and the St. Paul Teachers Retirement Fund  
6.2 Association.

6.3 The ultimate future salary increase assumption is:

6.4	age	A	B	C	D	E	F	G
6.5	16	6.95%	6.95%	11.50%	8.20%	8.00%	6.90%	7.7500%
6.6	17	6.90	6.90	11.50	8.15	8.00	6.90	7.7500
6.7	18	6.85	6.85	11.50	8.10	8.00	6.90	7.7500
6.8	19	6.80	6.80	11.50	8.05	8.00	6.90	7.7500
6.9	20	6.75	6.40	11.50	6.00	6.90	6.90	7.7500
6.10	21	6.75	6.40	11.50	6.00	6.90	6.90	7.1454
6.11	22	6.75	6.40	11.00	6.00	6.90	6.90	7.0725
6.12	23	6.75	6.40	10.50	6.00	6.85	6.85	7.0544
6.13	24	6.75	6.40	10.00	6.00	6.80	6.80	7.0363
6.14	25	6.75	6.40	9.50	6.00	6.75	6.75	7.0000
6.15	26	6.75	6.36	9.20	6.00	6.70	6.70	7.0000
6.16	27	6.75	6.32	8.90	6.00	6.65	6.65	7.0000
6.17	28	6.75	6.28	8.60	6.00	6.60	6.60	7.0000
6.18	29	6.75	6.24	8.30	6.00	6.55	6.55	7.0000
6.19	30	6.75	6.20	8.00	6.00	6.50	6.50	7.0000
6.20	31	6.75	6.16	7.80	6.00	6.45	6.45	7.0000
6.21	32	6.75	6.12	7.60	6.00	6.40	6.40	7.0000
6.22	33	6.75	6.08	7.40	6.00	6.35	6.35	7.0000
6.23	34	6.75	6.04	7.20	6.00	6.30	6.30	7.0000
6.24	35	6.75	6.00	7.00	6.00	6.25	6.25	7.0000
6.25	36	6.75	5.96	6.80	6.00	6.20	6.20	6.9019
6.26	37	6.75	5.92	6.60	6.00	6.15	6.15	6.8074
6.27	38	6.75	5.88	6.40	5.90	6.10	6.10	6.7125
6.28	39	6.75	5.84	6.20	5.80	6.05	6.05	6.6054
6.29	40	6.75	5.80	6.00	5.70	6.00	6.00	6.5000
6.30	41	6.75	5.76	5.90	5.60	5.90	5.95	6.3540
6.31	42	6.75	5.72	5.80	5.50	5.80	5.90	6.2087
6.32	43	6.65	5.68	5.70	5.40	5.70	5.85	6.0622
6.33	44	6.55	5.64	5.60	5.30	5.60	5.80	5.9048
6.34	45	6.45	5.60	5.50	5.20	5.50	5.75	5.7500
6.35	46	6.35	5.56	5.45	5.10	5.40	5.70	5.6940
6.36	47	6.25	5.52	5.40	5.00	5.30	5.65	5.6375
6.37	48	6.15	5.48	5.35	5.00	5.20	5.60	5.5822
6.38	49	6.05	5.44	5.30	5.00	5.10	5.55	5.5404
6.39	50	5.95	5.40	5.25	5.00	5.00	5.50	5.5000
6.40	51	5.85	5.36	5.25	5.00	5.00	5.45	5.4384
6.41	52	5.75	5.32	5.25	5.00	5.00	5.40	5.3776
6.42	53	5.65	5.28	5.25	5.00	5.00	5.35	5.3167
6.43	54	5.55	5.24	5.25	5.00	5.00	5.30	5.2826

7.1	55	5.45	5.20	5.25	5.00	5.00	5.25	5.2500
7.2	56	5.35	5.16	5.25	5.00	5.00	5.20	5.2500
7.3	57	5.25	5.12	5.25	5.00	5.00	5.15	5.2500
7.4	58	5.25	5.08	5.25	5.10	5.00	5.10	5.2500
7.5	59	5.25	5.04	5.25	5.20	5.00	5.05	5.2500
7.6	60	5.25	5.00	5.25	5.30	5.00	5.00	5.2500
7.7	61	5.25	5.00	5.25	5.40	5.00	5.00	5.2500
7.8	62	5.25	5.00	5.25	5.50	5.00	5.00	5.2500
7.9	63	5.25	5.00	5.25	5.60	5.00	5.00	5.2500
7.10	64	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.11	65	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.12	66	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.13	67	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.14	68	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.15	69	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.16	70	5.25	5.00	5.25	5.70	5.00	5.00	5.2500
7.17	71	5.25	5.00		5.70			

7.18 (c) The actuarial valuation must use the applicable following payroll growth  
 7.19 assumption for calculating the amortization requirement for the unfunded actuarial  
 7.20 accrued liability where the amortization retirement is calculated as a level percentage  
 7.21 of an increasing payroll:

7.22		payroll growth
7.23	plan	assumption
7.24	general state employees retirement plan	5.00%
7.25	correctional state employees retirement plan	5.00
7.26	State Patrol retirement plan	5.00
7.27	legislators retirement plan	5.00
7.28	elective state officers retirement plan	5.00
7.29	judges retirement plan	5.00
7.30	general public employees retirement plan	6.00
7.31	public employees police and fire retirement	
7.32	plan	6.00
7.33	local government correctional service	
7.34	retirement plan	6.00
7.35	teachers retirement plan	5.00
7.36	Duluth teachers retirement plan	5.00
7.37	St. Paul teachers retirement plan	5.00"

7.38 Renumber the sections in sequence and correct the internal references

7.39 Amend the title accordingly

- 1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:
- 1.2 Page 8, line 14, strike "by the"
- 1.3 Page 8, line 15, strike "commission" and insert "under section 356.214"

1.1 ..... moves to amend H.F. No. 2361; S.F. No. 1978, as follows:

1.2 Page 8, after line 28, insert:

1.3 "Sec. 4. Minnesota Statutes 2006, section 356.215, subdivision 8, is amended to read:

1.4 Subd. 8. **Interest and salary assumptions.** (a) The actuarial valuation must use  
1.5 the applicable following preretirement interest assumption and the applicable following  
1.6 postretirement interest assumption:

1.7		preretirement	postretirement
1.8		interest rate	interest rate
1.9	plan	assumption	assumption
1.10	general state employees retirement plan	8.5%	6.0%
1.11	correctional state employees retirement		
1.12	plan	8.5	6.0
1.13	State Patrol retirement plan	8.5	6.0
1.14	legislators retirement plan	8.5	6.0
1.15	elective state officers retirement plan	8.5	6.0
1.16	judges retirement plan	8.5	6.0
1.17	general public employees retirement		
1.18	plan	8.5	6.0
1.19	public employees police and fire		
1.20	retirement plan	8.5	6.0
1.21	local government correctional service		
1.22	retirement plan	8.5	6.0
1.23	teachers retirement plan	8.5	6.0
1.24	Minneapolis employees retirement plan	6.0	5.0
1.25	Duluth teachers retirement plan	8.5	8.5
1.26	St. Paul teachers retirement plan	8.5	8.5
1.27	Minneapolis Police Relief Association	6.0	6.0
1.28	Fairmont Police Relief Association	5.0	5.0
1.29	Minneapolis Fire Department Relief		
1.30	Association	6.0	6.0
1.31	Virginia Fire Department Relief		
1.32	Association	5.0	5.0

2.1	Bloomington Fire Department Relief		
2.2	Association	6.0	6.0
2.3	local monthly benefit volunteer		
2.4	firefighters relief associations	5.0	5.0

2.5 (b) The actuarial valuation must use the applicable following single rate future salary  
 2.6 increase assumption, the applicable following modified single rate future salary increase  
 2.7 assumption, or the applicable following graded rate future salary increase assumption:

2.8 (1) single rate future salary increase assumption

2.9		future salary
2.10	plan	increase assumption
2.11	legislators retirement plan	5.0%
2.12	elective state officers retirement plan	5.0
2.13	judges retirement plan	5.0
2.14	Minneapolis Police Relief Association	4.0
2.15	Fairmont Police Relief Association	3.5
2.16	Minneapolis Fire Department Relief	
2.17	Association	4.0
2.18	Virginia Fire Department Relief Association	3.5
2.19	Bloomington Fire Department Relief	
2.20	Association	4.0

2.21 (2) modified single rate future salary increase assumption

2.22		future salary
2.23	plan	increase assumption
2.24	Minneapolis employees	the prior calendar year amount
2.25	retirement plan	increased first by 1.0198 percent to
2.26		prior fiscal year date and then increased
2.27		by 4.0 percent annually for each future
2.28		year

2.29 (3) select and ultimate future salary increase assumption or graded rate future salary  
 2.30 increase assumption

2.31		future salary
2.32	plan	increase assumption
2.33	general state employees	
2.34	retirement plan	select calculation and assumption A
2.35	correctional state employees	
2.36	retirement plan	assumption G
2.37	State Patrol retirement plan	assumption G
2.38	general public employees	
2.39	retirement plan	select calculation and assumption B
2.40	public employees police and fire	
2.41	fund retirement plan	assumption C
2.42	local government correctional	
2.43	service retirement plan	assumption G

- 3.1 teachers retirement plan select calculation and assumption D
- 3.2 Duluth teachers retirement plan select calculation and assumption E
- 3.3 St. Paul teachers retirement plan select calculation and assumption F

3.4 The select calculation is: during the ~~ten-year~~  
 3.5 designated select period, a designated  
 3.6 ~~percent~~ percentage rate is multiplied by the  
 3.7 result of ~~ten~~ the designated integer minus T,  
 3.8 where T is the number of completed years  
 3.9 of service, and is added to the applicable  
 3.10 future salary increase assumption. The  
 3.11 designated select period is five years and the  
 3.12 designated integer is five for the general state  
 3.13 employees retirement plan and the general  
 3.14 public employees retirement plan and the  
 3.15 designated select period is ten years and  
 3.16 the designated integer is ten for all other  
 3.17 retirement plans covered by this clause. The  
 3.18 designated ~~percent~~ percentage rate is 0.2  
 3.19 percent for the correctional state employees  
 3.20 retirement plan, the State Patrol retirement  
 3.21 plan, the public employees police and fire  
 3.22 plan, and the local government correctional  
 3.23 service plan; ~~and 0.3~~ is 0.6 percent for the  
 3.24 general state employees retirement plan; and  
 3.25 the general public employees retirement plan;  
 3.26 and is 0.3 percent for the teachers retirement  
 3.27 plan, the Duluth Teachers Retirement Fund  
 3.28 Association, and the St. Paul Teachers  
 3.29 Retirement Fund Association.

3.30 The ultimate future salary increase assumption is:

3.31	age	A	B	C	D	E	F	G
3.32	16	<del>6.95</del> <u>5.95%</u>	<del>6.95</del> <u>5.95%</u>	11.50%	<del>8.20</del> <u>7.70%</u>	8.00%	6.90%	7.7500%
3.33	17	<del>6.90</del> <u>5.90</u>	<del>6.90</del> <u>5.90</u>	11.50	<del>8.15</del> <u>7.65</u>	8.00	6.90	7.7500
3.34	18	<del>6.85</del> <u>5.85</u>	<del>6.85</del> <u>5.85</u>	11.50	<del>8.10</del> <u>7.60</u>	8.00	6.90	7.7500
3.35	19	<del>6.80</del> <u>5.80</u>	<del>6.80</del> <u>5.80</u>	11.50	<del>8.05</del> <u>7.55</u>	8.00	6.90	7.7500
3.36	20	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	11.50	<del>6.00</del> <u>5.50</u>	6.90	6.90	7.7500
3.37	21	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	11.50	<del>6.00</del> <u>5.50</u>	6.90	6.90	7.1454

4.1	22	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	11.00	<del>6.00</del> <u>5.50</u>	6.90	6.90	7.0725
4.2	23	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	10.50	<del>6.00</del> <u>5.50</u>	6.85	6.85	7.0544
4.3	24	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	10.00	<del>6.00</del> <u>5.50</u>	6.80	6.80	7.0363
4.4	25	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	9.50	<del>6.00</del> <u>5.50</u>	6.75	6.75	7.0000
4.5	26	<del>6.75</del> <u>5.75</u>	<del>6.36</del> <u>5.36</u>	9.20	<del>6.00</del> <u>5.50</u>	6.70	6.70	7.0000
4.6	27	<del>6.75</del> <u>5.75</u>	<del>6.32</del> <u>5.32</u>	8.90	<del>6.00</del> <u>5.50</u>	6.65	6.65	7.0000
4.7	28	<del>6.75</del> <u>5.75</u>	<del>6.28</del> <u>5.28</u>	8.60	<del>6.00</del> <u>5.50</u>	6.60	6.60	7.0000
4.8	29	<del>6.75</del> <u>5.75</u>	<del>6.24</del> <u>5.24</u>	8.30	<del>6.00</del> <u>5.50</u>	6.55	6.55	7.0000
4.9	30	<del>6.75</del> <u>5.75</u>	<del>6.20</del> <u>5.20</u>	8.00	<del>6.00</del> <u>5.50</u>	6.50	6.50	7.0000
4.10	31	<del>6.75</del> <u>5.75</u>	<del>6.16</del> <u>5.16</u>	7.80	<del>6.00</del> <u>5.50</u>	6.45	6.45	7.0000
4.11	32	<del>6.75</del> <u>5.75</u>	<del>6.12</del> <u>5.12</u>	7.60	<del>6.00</del> <u>5.50</u>	6.40	6.40	7.0000
4.12	33	<del>6.75</del> <u>5.75</u>	<del>6.08</del> <u>5.08</u>	7.40	<del>6.00</del> <u>5.50</u>	6.35	6.35	7.0000
4.13	34	<del>6.75</del> <u>5.75</u>	<del>6.04</del> <u>5.04</u>	7.20	<del>6.00</del> <u>5.50</u>	6.30	6.30	7.0000
4.14	35	<del>6.75</del> <u>5.75</u>	<del>6.00</del> <u>5.00</u>	7.00	<del>6.00</del> <u>5.50</u>	6.25	6.25	7.0000
4.15	36	<del>6.75</del> <u>5.75</u>	<del>5.96</del> <u>4.96</u>	6.80	<del>6.00</del> <u>5.50</u>	6.20	6.20	6.9019
4.16	37	<del>6.75</del> <u>5.75</u>	<del>5.92</del> <u>4.92</u>	6.60	<del>6.00</del> <u>5.50</u>	6.15	6.15	6.8074
4.17	38	<del>6.75</del> <u>5.75</u>	<del>5.88</del> <u>4.88</u>	6.40	<del>5.90</del> <u>5.40</u>	6.10	6.10	6.7125
4.18	39	<del>6.75</del> <u>5.75</u>	<del>5.84</del> <u>4.84</u>	6.20	<del>5.80</del> <u>5.30</u>	6.05	6.05	6.6054
4.19	40	<del>6.75</del> <u>5.75</u>	<del>5.80</del> <u>4.80</u>	6.00	<del>5.70</del> <u>5.20</u>	6.00	6.00	6.5000
4.20	41	<del>6.75</del> <u>5.75</u>	<del>5.76</del> <u>4.76</u>	5.90	<del>5.60</del> <u>5.10</u>	5.90	5.95	6.3540
4.21	42	<del>6.75</del> <u>5.75</u>	<del>5.72</del> <u>4.72</u>	5.80	<del>5.50</del> <u>5.00</u>	5.80	5.90	6.2087
4.22	43	<del>6.65</del> <u>5.65</u>	<del>5.68</del> <u>4.68</u>	5.70	<del>5.40</del> <u>4.90</u>	5.70	5.85	6.0622
4.23	44	<del>6.55</del> <u>5.55</u>	<del>5.64</del> <u>4.64</u>	5.60	<del>5.30</del> <u>4.80</u>	5.60	5.80	5.9048
4.24	45	<del>6.45</del> <u>5.45</u>	<del>5.60</del> <u>4.60</u>	5.50	<del>5.20</del> <u>4.70</u>	5.50	5.75	5.7500
4.25	46	<del>6.35</del> <u>5.35</u>	<del>5.56</del> <u>4.56</u>	5.45	<del>5.10</del> <u>4.60</u>	5.40	5.70	5.6940
4.26	47	<del>6.25</del> <u>5.25</u>	<del>5.52</del> <u>4.52</u>	5.40	<del>5.00</del> <u>4.50</u>	5.30	5.65	5.6375
4.27	48	<del>6.15</del> <u>5.15</u>	<del>5.48</del> <u>4.48</u>	5.35	<del>5.00</del> <u>4.50</u>	5.20	5.60	5.5822
4.28	49	<del>6.05</del> <u>5.05</u>	<del>5.44</del> <u>4.44</u>	5.30	<del>5.00</del> <u>4.50</u>	5.10	5.55	5.5404
4.29	50	<del>5.95</del> <u>4.95</u>	<del>5.40</del> <u>4.40</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.50	5.5000
4.30	51	<del>5.85</del> <u>4.85</u>	<del>5.36</del> <u>4.36</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.45	5.4384
4.31	52	<del>5.75</del> <u>4.75</u>	<del>5.32</del> <u>4.32</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.40	5.3776
4.32	53	<del>5.65</del> <u>4.65</u>	<del>5.28</del> <u>4.28</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.35	5.3167
4.33	54	<del>5.55</del> <u>4.55</u>	<del>5.24</del> <u>4.24</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.30	5.2826
4.34	55	<del>5.45</del> <u>4.45</u>	<del>5.20</del> <u>4.20</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.25	5.2500
4.35	56	<del>5.35</del> <u>4.35</u>	<del>5.16</del> <u>4.16</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.20	5.2500
4.36	57	<del>5.25</del> <u>4.25</u>	<del>5.12</del> <u>4.12</u>	5.25	<del>5.00</del> <u>4.50</u>	5.00	5.15	5.2500
4.37	58	<del>5.25</del> <u>4.25</u>	<del>5.08</del> <u>4.08</u>	5.25	<del>5.10</del> <u>4.60</u>	5.00	5.10	5.2500
4.38	59	<del>5.25</del> <u>4.25</u>	<del>5.04</del> <u>4.04</u>	5.25	<del>5.20</del> <u>4.70</u>	5.00	5.05	5.2500
4.39	60	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.30</del> <u>4.80</u>	5.00	5.00	5.2500
4.40	61	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.40</del> <u>4.90</u>	5.00	5.00	5.2500
4.41	62	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.50</del> <u>5.00</u>	5.00	5.00	5.2500
4.42	63	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.60</del> <u>5.10</u>	5.00	5.00	5.2500
4.43	64	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500

5.1	65	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.2	66	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.3	67	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.4	68	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.5	69	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.6	70	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	5.25	<del>5.70</del> <u>5.20</u>	5.00	5.00	5.2500
5.7	71	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>		<del>5.70</del> <u>5.20</u>			

5.8 (c) The actuarial valuation must use the applicable following payroll growth  
 5.9 assumption for calculating the amortization requirement for the unfunded actuarial  
 5.10 accrued liability where the amortization retirement is calculated as a level percentage  
 5.11 of an increasing payroll:

5.12	plan	payroll growth assumption
5.13		
5.14	general state employees retirement plan	<del>5.00</del> <u>4.50%</u>
5.15	correctional state employees retirement plan	5.00
5.16	State Patrol retirement plan	5.00
5.17	legislators retirement plan	5.00
5.18	elective state officers retirement plan	5.00
5.19	judges retirement plan	5.00
5.20	general public employees retirement plan	<del>6.00</del> <u>4.50</u>
5.21	public employees police and fire retirement	
5.22	plan	6.00
5.23	local government correctional service	
5.24	retirement plan	6.00
5.25	teachers retirement plan	<del>5.00</del> <u>4.50</u>
5.26	Duluth teachers retirement plan	5.00
5.27	St. Paul teachers retirement plan	5.00

5.28 Sec. 5. Minnesota Statutes 2006, section 356.215, subdivision 11, is amended to read:

5.29 Subd. 11. **Amortization contributions.** (a) In addition to the exhibit indicating  
 5.30 the level normal cost, the actuarial valuation of the retirement plan must contain an  
 5.31 exhibit indicating the additional annual contribution sufficient to amortize the unfunded  
 5.32 actuarial accrued liability. For ~~funds~~ the retirement plans governed by chapters 3A, 352,  
 5.33 352B, 352C, 353, 354, 354A, and 490, the additional contribution must be calculated on a  
 5.34 level percentage of covered payroll basis by the established date for full funding in effect  
 5.35 when the valuation is prepared. For ~~funds~~ the retirement plans governed by chapter 3A,  
 5.36 sections 352.01 through 352.86, sections 352.90 through 352.951, chapters 352B, 352C,  
 5.37 sections 353.01 through 353.46, sections 353.63 through 353.68, and chapters 353C,  
 5.38 354, 354A, and 490, the level percent additional contribution must be calculated assuming  
 5.39 annual payroll growth of 6.5 percent. ~~For funds governed by sections 352.01 through~~

6.1 ~~352.86 and chapter 354, the level percent additional contribution must be calculated~~  
6.2 ~~assuming an annual payroll growth of five percent. For the fund governed by sections~~  
6.3 ~~353.01 through 353.46, the level percent additional contribution must be calculated~~  
6.4 ~~assuming an annual payroll growth of six percent as specified in subdivision 8. For all~~  
6.5 ~~other funds~~ retirement plans, the additional annual contribution must be calculated on a  
6.6 level annual dollar amount basis.

6.7 (b) For any ~~fund~~ retirement plan other than the Minneapolis Employees Retirement  
6.8 Fund and the general employees retirement plan of the Public Employees Retirement  
6.9 Association ~~general plan~~, if there has not been a change in the actuarial assumptions  
6.10 used for calculating the actuarial accrued liability of the fund, a change in the benefit  
6.11 plan governing annuities and benefits payable from the fund, a change in the actuarial  
6.12 cost method used in calculating the actuarial accrued liability of all or a portion of the  
6.13 fund, or a combination of the three, which change or changes by itself or by themselves  
6.14 without inclusion of any other items of increase or decrease produce a net increase in the  
6.15 unfunded actuarial accrued liability of the fund, the established date for full funding is the  
6.16 first actuarial valuation date occurring after June 1, 2020.

6.17 (c) For any ~~fund~~ retirement or plan other than the Minneapolis Employees  
6.18 Retirement Fund and the general employees retirement plan of the Public Employees  
6.19 Retirement Association ~~general plan~~, if there has been a change in any or all of the  
6.20 actuarial assumptions used for calculating the actuarial accrued liability of the fund, a  
6.21 change in the benefit plan governing annuities and benefits payable from the fund, a  
6.22 change in the actuarial cost method used in calculating the actuarial accrued liability of all  
6.23 or a portion of the fund, or a combination of the three, and the change or changes, by itself  
6.24 or by themselves and without inclusion of any other items of increase or decrease, produce  
6.25 a net increase in the unfunded actuarial accrued liability in the fund, the established date  
6.26 for full funding must be determined using the following procedure:

6.27 (i) the unfunded actuarial accrued liability of the fund must be determined in  
6.28 accordance with the plan provisions governing annuities and retirement benefits and the  
6.29 actuarial assumptions in effect before an applicable change;

6.30 (ii) the level annual dollar contribution or level percentage, whichever is applicable,  
6.31 needed to amortize the unfunded actuarial accrued liability amount determined under item  
6.32 (i) by the established date for full funding in effect before the change must be calculated  
6.33 using the interest assumption specified in subdivision 8 in effect before the change;

6.34 (iii) the unfunded actuarial accrued liability of the fund must be determined in  
6.35 accordance with any new plan provisions governing annuities and benefits payable from  
6.36 the fund and any new actuarial assumptions and the remaining plan provisions governing

7.1 annuities and benefits payable from the fund and actuarial assumptions in effect before  
7.2 the change;

7.3 (iv) the level annual dollar contribution or level percentage, whichever is applicable,  
7.4 needed to amortize the difference between the unfunded actuarial accrued liability amount  
7.5 calculated under item (i) and the unfunded actuarial accrued liability amount calculated  
7.6 under item (iii) over a period of 30 years from the end of the plan year in which the  
7.7 applicable change is effective must be calculated using the applicable interest assumption  
7.8 specified in subdivision 8 in effect after any applicable change;

7.9 (v) the level annual dollar or level percentage amortization contribution under item  
7.10 (iv) must be added to the level annual dollar amortization contribution or level percentage  
7.11 calculated under item (ii);

7.12 (vi) the period in which the unfunded actuarial accrued liability amount determined  
7.13 in item (iii) is amortized by the total level annual dollar or level percentage amortization  
7.14 contribution computed under item (v) must be calculated using the interest assumption  
7.15 specified in subdivision 8 in effect after any applicable change, rounded to the nearest  
7.16 integral number of years, but not to exceed 30 years from the end of the plan year in  
7.17 which the determination of the established date for full funding using the procedure set  
7.18 forth in this clause is made and not to be less than the period of years beginning in the  
7.19 plan year in which the determination of the established date for full funding using the  
7.20 procedure set forth in this clause is made and ending by the date for full funding in effect  
7.21 before the change; and

7.22 (vii) the period determined under item (vi) must be added to the date as of which  
7.23 the actuarial valuation was prepared and the date obtained is the new established date  
7.24 for full funding.

7.25 (d) For the Minneapolis Employees Retirement Fund, the established date for full  
7.26 funding is June 30, 2020.

7.27 (e) For the general employees retirement plan of the Public Employees Retirement  
7.28 Association, the established date for full funding is June 30, 2031.

7.29 (f) For the Teachers Retirement Association, the established date for full funding is  
7.30 June 30, 2037.

7.31 (g) For the retirement plans for which the annual actuarial valuation indicates an  
7.32 excess of valuation assets over the actuarial accrued liability, the valuation assets in  
7.33 excess of the actuarial accrued liability must be recognized as a reduction in the current  
7.34 contribution requirements by an amount equal to the amortization of the excess expressed  
7.35 as a level percentage of pay over a 30-year period beginning anew with each annual  
7.36 actuarial valuation of the plan."

- 8.1 Renumber the sections in sequence and correct the internal references
- 8.2 Amend the title accordingly

1.1 ..... moves to amend the amendment to H.F. No. 2361; S.F. No. 1978,  
1.2 document H2361-6A, as follows:

1.3 Page 2, lines 36 and 37, strike "G" and insert "H"

1.4 Page 3, lines 31 to 37, delete the new language and strike the old language

1.5 Page 4, lines 1 to 43, delete the new language and strike the old language

1.6 Page 5, lines 1 to 7, delete the new language and strike the old language and insert:

1.7	"age	A	B	C	D	E	F	G	H
1.8	16	<del>6.95</del> <u>5.95%</u>	<del>6.95</del> <u>5.95%</u>	<del>11.50</del> <u>11.00%</u>	<del>8.20</del> <u>7.70%</u>	8.00%	6.90%	<del>7.7500</del> <u>7.2500%</u>	<u>7.7500%</u>
1.9	17	<del>6.90</del> <u>5.90</u>	<del>6.90</del> <u>5.90</u>	<del>11.50</del> <u>11.00</u>	<del>8.15</del> <u>7.65</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>7.7500</u>
1.10	18	<del>6.85</del> <u>5.85</u>	<del>6.85</del> <u>5.85</u>	<del>11.50</del> <u>11.00</u>	<del>8.10</del> <u>7.60</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>7.7500</u>
1.11	19	<del>6.80</del> <u>5.80</u>	<del>6.80</del> <u>5.80</u>	<del>11.50</del> <u>11.00</u>	<del>8.05</del> <u>7.55</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>7.7500</u>
1.12	20	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.50</del> <u>11.00</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.7500</del> <u>7.2500</u>	<u>7.7500</u>
1.13	21	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.50</del> <u>11.00</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.1454</del> <u>6.6454</u>	<u>7.1454</u>
1.14	22	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.00</del> <u>10.50</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.0725</del> <u>6.5725</u>	<u>7.0725</u>
1.15	23	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>10.50</del> <u>10.00</u>	<del>6.00</del> <u>5.50</u>	6.85	6.85	<del>7.0544</del> <u>6.5544</u>	<u>7.0544</u>
1.16	24	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>10.00</del> <u>9.50</u>	<del>6.00</del> <u>5.50</u>	6.80	6.80	<del>7.0363</del> <u>6.5363</u>	<u>7.0363</u>
1.17	25	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>9.50</del> <u>9.00</u>	<del>6.00</del> <u>5.50</u>	6.75	6.75	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.18	26	<del>6.75</del> <u>5.75</u>	<del>6.36</del> <u>5.36</u>	<del>9.20</del> <u>8.70</u>	<del>6.00</del> <u>5.50</u>	6.70	6.70	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.19	27	<del>6.75</del> <u>5.75</u>	<del>6.32</del> <u>5.32</u>	<del>8.90</del> <u>8.40</u>	<del>6.00</del> <u>5.50</u>	6.65	6.65	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.20	28	<del>6.75</del> <u>5.75</u>	<del>6.28</del> <u>5.28</u>	<del>8.60</del> <u>8.10</u>	<del>6.00</del> <u>5.50</u>	6.60	6.60	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.21	29	<del>6.75</del> <u>5.75</u>	<del>6.24</del> <u>5.24</u>	<del>8.30</del> <u>7.80</u>	<del>6.00</del> <u>5.50</u>	6.55	6.55	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.22	30	<del>6.75</del> <u>5.75</u>	<del>6.20</del> <u>5.20</u>	<del>8.00</del> <u>7.50</u>	<del>6.00</del> <u>5.50</u>	6.50	6.50	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.23	31	<del>6.75</del> <u>5.75</u>	<del>6.16</del> <u>5.16</u>	<del>7.80</del> <u>7.30</u>	<del>6.00</del> <u>5.50</u>	6.45	6.45	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.24	32	<del>6.75</del> <u>5.75</u>	<del>6.12</del> <u>5.12</u>	<del>7.60</del> <u>7.10</u>	<del>6.00</del> <u>5.50</u>	6.40	6.40	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.25	33	<del>6.75</del> <u>5.75</u>	<del>6.08</del> <u>5.08</u>	<del>7.40</del> <u>6.90</u>	<del>6.00</del> <u>5.50</u>	6.35	6.35	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.26	34	<del>6.75</del> <u>5.75</u>	<del>6.04</del> <u>5.04</u>	<del>7.20</del> <u>6.70</u>	<del>6.00</del> <u>5.50</u>	6.30	6.30	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.27	35	<del>6.75</del> <u>5.75</u>	<del>6.00</del> <u>5.00</u>	<del>7.00</del> <u>6.50</u>	<del>6.00</del> <u>5.50</u>	6.25	6.25	<del>7.0000</del> <u>6.5000</u>	<u>7.0000</u>
1.28	36	<del>6.75</del> <u>5.75</u>	<del>5.96</del> <u>4.96</u>	<del>6.80</del> <u>6.30</u>	<del>6.00</del> <u>5.50</u>	6.20	6.20	<del>6.9019</del> <u>6.4019</u>	<u>6.9019</u>
1.29	37	<del>6.75</del> <u>5.75</u>	<del>5.92</del> <u>4.92</u>	<del>6.60</del> <u>6.10</u>	<del>6.00</del> <u>5.50</u>	6.15	6.15	<del>6.8074</del> <u>6.3074</u>	<u>6.8074</u>
1.30	38	<del>6.75</del> <u>5.75</u>	<del>5.88</del> <u>4.88</u>	<del>6.40</del> <u>5.90</u>	<del>5.90</del> <u>5.40</u>	6.10	6.10	<del>6.7125</del> <u>6.2125</u>	<u>6.7125</u>
1.31	39	<del>6.75</del> <u>5.75</u>	<del>5.84</del> <u>4.84</u>	<del>6.20</del> <u>5.70</u>	<del>5.80</del> <u>5.30</u>	6.05	6.05	<del>6.6054</del> <u>6.1054</u>	<u>6.6054</u>
1.32	40	<del>6.75</del> <u>5.75</u>	<del>5.80</del> <u>4.80</u>	<del>6.00</del> <u>5.50</u>	<del>5.70</del> <u>5.20</u>	6.00	6.00	<del>6.5000</del> <u>6.0000</u>	<u>6.5000</u>
1.33	41	<del>6.75</del> <u>5.75</u>	<del>5.76</del> <u>4.76</u>	<del>5.90</del> <u>5.40</u>	<del>5.60</del> <u>5.10</u>	5.90	5.95	<del>6.3540</del> <u>5.8540</u>	<u>6.3540</u>
1.34	42	<del>6.75</del> <u>5.75</u>	<del>5.72</del> <u>4.72</u>	<del>5.80</del> <u>5.30</u>	<del>5.50</del> <u>5.00</u>	5.80	5.90	<del>6.2087</del> <u>5.7087</u>	<u>6.2087</u>
1.35	43	<del>6.65</del> <u>5.65</u>	<del>5.68</del> <u>4.68</u>	<del>5.70</del> <u>5.20</u>	<del>5.40</del> <u>4.90</u>	5.70	5.85	<del>6.0622</del> <u>5.5622</u>	<u>6.0622</u>

2.1	44	<del>6.55</del> <u>5.55</u>	<del>5.64</del> <u>4.64</u>	<del>5.60</del> <u>5.10</u>	<del>5.30</del> <u>4.80</u>	5.60	5.80	<del>5.9048</del> <u>5.4078</u>	<u>5.9048</u>
2.2	45	<del>6.45</del> <u>5.45</u>	<del>5.60</del> <u>4.60</u>	<del>5.50</del> <u>5.00</u>	<del>5.20</del> <u>4.70</u>	5.50	5.75	<del>5.7500</del> <u>5.2500</u>	<u>5.7500</u>
2.3	46	<del>6.35</del> <u>5.35</u>	<del>5.56</del> <u>4.56</u>	<del>5.45</del> <u>4.95</u>	<del>5.10</del> <u>4.60</u>	5.40	5.70	<del>5.6940</del> <u>5.1940</u>	<u>5.6940</u>
2.4	47	<del>6.25</del> <u>5.25</u>	<del>5.52</del> <u>4.52</u>	<del>5.40</del> <u>4.90</u>	<del>5.00</del> <u>4.50</u>	5.30	5.65	<del>5.6375</del> <u>5.1375</u>	<u>5.6375</u>
2.5	48	<del>6.15</del> <u>5.15</u>	<del>5.48</del> <u>4.48</u>	<del>5.35</del> <u>4.85</u>	<del>5.00</del> <u>4.50</u>	5.20	5.60	<del>5.5822</del> <u>5.0822</u>	<u>5.5822</u>
2.6	49	<del>6.05</del> <u>5.05</u>	<del>5.44</del> <u>4.44</u>	<del>5.30</del> <u>4.80</u>	<del>5.00</del> <u>4.50</u>	5.10	5.55	<del>5.5404</del> <u>5.0404</u>	<u>5.5404</u>
2.7	50	<del>5.95</del> <u>4.95</u>	<del>5.40</del> <u>4.40</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.50	<del>5.5000</del> <u>5.0000</u>	<u>5.5000</u>
2.8	51	<del>5.85</del> <u>4.85</u>	<del>5.36</del> <u>4.36</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.45	<del>5.4384</del> <u>4.9384</u>	<u>5.4384</u>
2.9	52	<del>5.75</del> <u>4.75</u>	<del>5.32</del> <u>4.32</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.40	<del>5.3776</del> <u>4.8776</u>	<u>5.3776</u>
2.10	53	<del>5.65</del> <u>4.65</u>	<del>5.28</del> <u>4.28</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.35	<del>5.3167</del> <u>4.8167</u>	<u>5.3167</u>
2.11	54	<del>5.55</del> <u>4.55</u>	<del>5.24</del> <u>4.24</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.30	<del>5.2826</del> <u>4.7826</u>	<u>5.2826</u>
2.12	55	<del>5.45</del> <u>4.45</u>	<del>5.20</del> <u>4.20</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.25	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.13	56	<del>5.35</del> <u>4.35</u>	<del>5.16</del> <u>4.16</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.20	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.14	57	<del>5.25</del> <u>4.25</u>	<del>5.12</del> <u>4.12</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.15	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.15	58	<del>5.25</del> <u>4.25</u>	<del>5.08</del> <u>4.08</u>	<del>5.25</del> <u>4.75</u>	<del>5.10</del> <u>4.60</u>	5.00	5.10	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.16	59	<del>5.25</del> <u>4.25</u>	<del>5.04</del> <u>4.04</u>	<del>5.25</del> <u>4.75</u>	<del>5.20</del> <u>4.70</u>	5.00	5.05	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.17	60	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.30</del> <u>4.80</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.18	61	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.40</del> <u>4.90</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.19	62	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.50</del> <u>5.00</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.20	63	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.60</del> <u>5.10</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.21	64	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.22	65	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.23	66	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.24	67	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.25	68	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.26	69	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.27	70	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>5.2500</u>
2.28	71	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>		<del>5.70</del> <u>5.20"</u>				

2.29 Page 5, lines 22 and 24, strike "6.00" and insert "4.50"

1.1 ..... moves to amend the amendment to H.F. No. 2361; S.F. No. 1978,  
 1.2 document H2361-6A, as follows:

1.3 Page 2, lines 36 and 37, strike "G" and insert "H"

1.4 Page 3, lines 31 to 37, delete the new language and strike the old language

1.5 Page 4, lines 1 to 43, delete the new language and strike the old language

1.6 Page 5, lines 1 to 7, delete the new language and strike the old language and insert:

1.7	"age	A	B	C	D	E	F	G	H
1.8	16	<del>6.95</del> <u>5.95%</u>	<del>6.95</del> <u>5.95%</u>	<del>11.50</del> <u>11.00%</u>	<del>8.20</del> <u>7.70%</u>	8.00%	6.90%	<del>7.7500</del> <u>7.2500%</u>	<u>6.7500%</u>
1.9	17	<del>6.90</del> <u>5.90</u>	<del>6.90</del> <u>5.90</u>	<del>11.50</del> <u>11.00</u>	<del>8.15</del> <u>7.65</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>6.7500</u>
1.10	18	<del>6.85</del> <u>5.85</u>	<del>6.85</del> <u>5.85</u>	<del>11.50</del> <u>11.00</u>	<del>8.10</del> <u>7.60</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>6.7500</u>
1.11	19	<del>6.80</del> <u>5.80</u>	<del>6.80</del> <u>5.80</u>	<del>11.50</del> <u>11.00</u>	<del>8.05</del> <u>7.55</u>	8.00	6.90	<del>7.7500</del> <u>7.2500</u>	<u>6.7500</u>
1.12	20	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.50</del> <u>11.00</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.7500</del> <u>7.2500</u>	<u>6.7500</u>
1.13	21	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.50</del> <u>11.00</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.1454</del> <u>6.6454</u>	<u>6.1454</u>
1.14	22	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>11.00</del> <u>10.50</u>	<del>6.00</del> <u>5.50</u>	6.90	6.90	<del>7.0725</del> <u>6.5725</u>	<u>6.0725</u>
1.15	23	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>10.50</del> <u>10.00</u>	<del>6.00</del> <u>5.50</u>	6.85	6.85	<del>7.0544</del> <u>6.5544</u>	<u>6.0544</u>
1.16	24	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>10.00</del> <u>9.50</u>	<del>6.00</del> <u>5.50</u>	6.80	6.80	<del>7.0363</del> <u>6.5363</u>	<u>6.0363</u>
1.17	25	<del>6.75</del> <u>5.75</u>	<del>6.40</del> <u>5.40</u>	<del>9.50</del> <u>9.00</u>	<del>6.00</del> <u>5.50</u>	6.75	6.75	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.18	26	<del>6.75</del> <u>5.75</u>	<del>6.36</del> <u>5.36</u>	<del>9.20</del> <u>8.70</u>	<del>6.00</del> <u>5.50</u>	6.70	6.70	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.19	27	<del>6.75</del> <u>5.75</u>	<del>6.32</del> <u>5.32</u>	<del>8.90</del> <u>8.40</u>	<del>6.00</del> <u>5.50</u>	6.65	6.65	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.20	28	<del>6.75</del> <u>5.75</u>	<del>6.28</del> <u>5.28</u>	<del>8.60</del> <u>8.10</u>	<del>6.00</del> <u>5.50</u>	6.60	6.60	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.21	29	<del>6.75</del> <u>5.75</u>	<del>6.24</del> <u>5.24</u>	<del>8.30</del> <u>7.80</u>	<del>6.00</del> <u>5.50</u>	6.55	6.55	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.22	30	<del>6.75</del> <u>5.75</u>	<del>6.20</del> <u>5.20</u>	<del>8.00</del> <u>7.50</u>	<del>6.00</del> <u>5.50</u>	6.50	6.50	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.23	31	<del>6.75</del> <u>5.75</u>	<del>6.16</del> <u>5.16</u>	<del>7.80</del> <u>7.30</u>	<del>6.00</del> <u>5.50</u>	6.45	6.45	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.24	32	<del>6.75</del> <u>5.75</u>	<del>6.12</del> <u>5.12</u>	<del>7.60</del> <u>7.10</u>	<del>6.00</del> <u>5.50</u>	6.40	6.40	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.25	33	<del>6.75</del> <u>5.75</u>	<del>6.08</del> <u>5.08</u>	<del>7.40</del> <u>6.90</u>	<del>6.00</del> <u>5.50</u>	6.35	6.35	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.26	34	<del>6.75</del> <u>5.75</u>	<del>6.04</del> <u>5.04</u>	<del>7.20</del> <u>6.70</u>	<del>6.00</del> <u>5.50</u>	6.30	6.30	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.27	35	<del>6.75</del> <u>5.75</u>	<del>6.00</del> <u>5.00</u>	<del>7.00</del> <u>6.50</u>	<del>6.00</del> <u>5.50</u>	6.25	6.25	<del>7.0000</del> <u>6.5000</u>	<u>6.0000</u>
1.28	36	<del>6.75</del> <u>5.75</u>	<del>5.96</del> <u>4.96</u>	<del>6.80</del> <u>6.30</u>	<del>6.00</del> <u>5.50</u>	6.20	6.20	<del>6.9019</del> <u>6.4019</u>	<u>5.9019</u>
1.29	37	<del>6.75</del> <u>5.75</u>	<del>5.92</del> <u>4.92</u>	<del>6.60</del> <u>6.10</u>	<del>6.00</del> <u>5.50</u>	6.15	6.15	<del>6.8074</del> <u>6.3074</u>	<u>5.8074</u>
1.30	38	<del>6.75</del> <u>5.75</u>	<del>5.88</del> <u>4.88</u>	<del>6.40</del> <u>5.90</u>	<del>5.90</del> <u>5.40</u>	6.10	6.10	<del>6.7125</del> <u>6.2125</u>	<u>5.7125</u>
1.31	39	<del>6.75</del> <u>5.75</u>	<del>5.84</del> <u>4.84</u>	<del>6.20</del> <u>5.70</u>	<del>5.80</del> <u>5.30</u>	6.05	6.05	<del>6.6054</del> <u>6.1054</u>	<u>5.6054</u>
1.32	40	<del>6.75</del> <u>5.75</u>	<del>5.80</del> <u>4.80</u>	<del>6.00</del> <u>5.50</u>	<del>5.70</del> <u>5.20</u>	6.00	6.00	<del>6.5000</del> <u>6.0000</u>	<u>5.5000</u>
1.33	41	<del>6.75</del> <u>5.75</u>	<del>5.76</del> <u>4.76</u>	<del>5.90</del> <u>5.40</u>	<del>5.60</del> <u>5.10</u>	5.90	5.95	<del>6.3540</del> <u>5.8540</u>	<u>5.3540</u>
1.34	42	<del>6.75</del> <u>5.75</u>	<del>5.72</del> <u>4.72</u>	<del>5.80</del> <u>5.30</u>	<del>5.50</del> <u>5.00</u>	5.80	5.90	<del>6.2087</del> <u>5.7087</u>	<u>5.2087</u>
1.35	43	<del>6.65</del> <u>5.65</u>	<del>5.68</del> <u>4.68</u>	<del>5.70</del> <u>5.20</u>	<del>5.40</del> <u>4.90</u>	5.70	5.85	<del>6.0622</del> <u>5.5622</u>	<u>5.0622</u>

2.1	44	<del>6.55</del> <u>5.55</u>	<del>5.64</del> <u>4.64</u>	<del>5.60</del> <u>5.10</u>	<del>5.30</del> <u>4.80</u>	5.60	5.80	<del>5.9048</del> <u>5.4078</u>	<u>4.9048</u>
2.2	45	<del>6.45</del> <u>5.45</u>	<del>5.60</del> <u>4.60</u>	<del>5.50</del> <u>5.00</u>	<del>5.20</del> <u>4.70</u>	5.50	5.75	<del>5.7500</del> <u>5.2500</u>	<u>4.7500</u>
2.3	46	<del>6.35</del> <u>5.35</u>	<del>5.56</del> <u>4.56</u>	<del>5.45</del> <u>4.95</u>	<del>5.10</del> <u>4.60</u>	5.40	5.70	<del>5.6940</del> <u>5.1940</u>	<u>4.6940</u>
2.4	47	<del>6.25</del> <u>5.25</u>	<del>5.52</del> <u>4.52</u>	<del>5.40</del> <u>4.90</u>	<del>5.00</del> <u>4.50</u>	5.30	5.65	<del>5.6375</del> <u>5.1375</u>	<u>4.6375</u>
2.5	48	<del>6.15</del> <u>5.15</u>	<del>5.48</del> <u>4.48</u>	<del>5.35</del> <u>4.85</u>	<del>5.00</del> <u>4.50</u>	5.20	5.60	<del>5.5822</del> <u>5.0822</u>	<u>4.5822</u>
2.6	49	<del>6.05</del> <u>5.05</u>	<del>5.44</del> <u>4.44</u>	<del>5.30</del> <u>4.80</u>	<del>5.00</del> <u>4.50</u>	5.10	5.55	<del>5.5404</del> <u>5.0404</u>	<u>4.5404</u>
2.7	50	<del>5.95</del> <u>4.95</u>	<del>5.40</del> <u>4.40</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.50	<del>5.5000</del> <u>5.0000</u>	<u>4.5000</u>
2.8	51	<del>5.85</del> <u>4.85</u>	<del>5.36</del> <u>4.36</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.45	<del>5.4384</del> <u>4.9384</u>	<u>4.4384</u>
2.9	52	<del>5.75</del> <u>4.75</u>	<del>5.32</del> <u>4.32</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.40	<del>5.3776</del> <u>4.8776</u>	<u>4.3776</u>
2.10	53	<del>5.65</del> <u>4.65</u>	<del>5.28</del> <u>4.28</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.35	<del>5.3167</del> <u>4.8167</u>	<u>4.3167</u>
2.11	54	<del>5.55</del> <u>4.55</u>	<del>5.24</del> <u>4.24</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.30	<del>5.2826</del> <u>4.7826</u>	<u>4.2826</u>
2.12	55	<del>5.45</del> <u>4.45</u>	<del>5.20</del> <u>4.20</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.25	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.13	56	<del>5.35</del> <u>4.35</u>	<del>5.16</del> <u>4.16</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.20	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.14	57	<del>5.25</del> <u>4.25</u>	<del>5.12</del> <u>4.12</u>	<del>5.25</del> <u>4.75</u>	<del>5.00</del> <u>4.50</u>	5.00	5.15	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.15	58	<del>5.25</del> <u>4.25</u>	<del>5.08</del> <u>4.08</u>	<del>5.25</del> <u>4.75</u>	<del>5.10</del> <u>4.60</u>	5.00	5.10	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.16	59	<del>5.25</del> <u>4.25</u>	<del>5.04</del> <u>4.04</u>	<del>5.25</del> <u>4.75</u>	<del>5.20</del> <u>4.70</u>	5.00	5.05	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.17	60	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.30</del> <u>4.80</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.18	61	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.40</del> <u>4.90</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.19	62	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.50</del> <u>5.00</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.20	63	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.60</del> <u>5.10</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.21	64	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.22	65	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.23	66	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.24	67	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.25	68	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.26	69	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.27	70	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>	<del>5.25</del> <u>4.75</u>	<del>5.70</del> <u>5.20</u>	5.00	5.00	<del>5.2500</del> <u>4.7500</u>	<u>4.2500</u>
2.28	71	<del>5.25</del> <u>4.25</u>	<del>5.00</del> <u>4.00</u>		<del>5.70</del> <u>5.20</u>				

2.29 Page 5, lines 22 and 24, strike "6.00" and insert "4.50"

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State of Minnesota  
HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH  
SESSION

HOUSE FILE No. **2361**

March 26, 2007

Authored by Murphy, M., by request; and Smith, by request

The bill was read for the first time and referred to the Committee on Governmental Operations, Reform, Technology and Elections

1.1 A bill for an act  
1.2 relating to retirement; accounting and actuarial reporting; implementing various  
1.3 generally accepted accounting principle requirements; amending Minnesota  
1.4 Statutes 2006, sections 356.20; 356.215, subdivisions 1, 2.

1.5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

1.6 Section 1. Minnesota Statutes 2006, section 356.20, is amended to read:

1.7 **356.20 PUBLIC PENSION FUND FINANCIAL REPORTING**  
1.8 **REQUIREMENT.**

1.9 Subdivision 1. **Report required.** (a) The governing or managing board or the  
1.10 chief administrative ~~officials~~ officer of the each public pension and retirement ~~funds~~  
1.11 plan enumerated in subdivision 2 ~~shall~~ must annually prepare and file a financial report  
1.12 following the close of each fiscal year.

1.13 (b) This requirement also applies to any plan or fund which may be a successor to any  
1.14 organization so enumerated or to any newly formed retirement plan, fund or association  
1.15 operating under the control or supervision of any public employee group, governmental  
1.16 unit, or institution receiving a portion of its support through legislative appropriations.

1.17 (c) The report must be prepared under the supervision and at the direction of the  
1.18 management of each ~~fund~~ plan and must be signed by the presiding officer of the managing  
1.19 board of the ~~fund~~ plan and the chief administrative ~~official~~ officer of the ~~fund~~ plan.

1.20 Subd. 2. **Covered public pension plans ~~and funds~~.** This section applies to the  
1.21 following public pension plans:

1.22 (1) the general state employees retirement plan of the Minnesota State Retirement  
1.23 System;

- 2.1 (2) the general employees retirement plan of the Public Employees Retirement  
 2.2 Association;
- 2.3 (3) the Teachers Retirement Association;
- 2.4 (4) the State Patrol retirement plan;
- 2.5 (5) the St. Paul Teachers Retirement Fund Association;
- 2.6 (6) the Duluth Teachers Retirement Fund Association;
- 2.7 (7) the Minneapolis Employees Retirement Fund;
- 2.8 (8) the University of Minnesota faculty retirement plan;
- 2.9 (9) the University of Minnesota faculty supplemental retirement plan;
- 2.10 (10) the judges retirement fund;
- 2.11 (11) a police or firefighter's relief association specified or described in section  
 2.12 69.77, subdivision 1a, or a firefighter's relief association specified in section 69.771,  
 2.13 subdivision 1;
- 2.14 (12) the public employees police and fire plan of the Public Employees Retirement  
 2.15 Association;
- 2.16 (13) the correctional state employees retirement plan of the Minnesota State  
 2.17 Retirement System; and
- 2.18 (14) the local government correctional service retirement plan of the Public  
 2.19 Employees Retirement Association.

2.20 Subd. 3. **Filing requirement.** The financial report is a public record. A copy of the  
 2.21 report or a synopsis of the report containing the information required by this section must  
 2.22 be ~~distributed~~ made available annually to each member of the fund and to the governing  
 2.23 body of each governmental subdivision of the state which makes employers contributions  
 2.24 thereto or in whose behalf taxes are levied for the employers' contribution. A signed copy  
 2.25 of the report must be delivered to the executive director of the Legislative Commission  
 2.26 on Pensions and Retirement and to the Legislative Reference Library not later than six  
 2.27 months after the close of each fiscal year or one month following the completion and  
 2.28 delivery to the retirement fund of the actuarial valuation report of the fund by the actuary  
 2.29 retained under section 356.214, if applicable, whichever is later.

2.30 Subd. 4. **Contents of financial report.** (a) The financial report required by  
 2.31 this section must contain financial statements and disclosures that indicate the financial  
 2.32 operations and position of the retirement plan and fund. The report must conform with  
 2.33 generally accepted governmental accounting principles, applied on a consistent basis. The  
 2.34 report must be audited.

2.35 (b) The report must include, as part of its exhibits or its footnotes, an actuarial  
 2.36 disclosure item based on the actuarial valuation calculations prepared by the actuary

3.1 retained under section 356.214 or by the actuary retained by the retirement fund or  
 3.2 plan, whichever applies, according to applicable actuarial requirements enumerated in  
 3.3 section 356.215, and specified in the most recent standards for actuarial work adopted  
 3.4 by the Legislative Commission on Pensions and Retirement. The ~~accrued~~ actuarial value  
 3.5 of assets, the actuarial accrued liabilities, including accrued reserves, and the unfunded  
 3.6 actuarial accrued liability of the fund or plan must be disclosed. The disclosure item  
 3.7 must contain a declaration by the actuary retained under section 356.214 or the actuary  
 3.8 retained by the fund or plan, whichever applies, specifying that the required reserves  
 3.9 for any retirement, disability, or survivor benefits provided under a benefit formula are  
 3.10 computed in accordance with the entry age actuarial cost method and in accordance  
 3.11 with the most recent applicable standards for actuarial work adopted by the Legislative  
 3.12 Commission on Pensions and Retirement.

3.13 ~~(b) Assets of the fund or plan contained in the disclosure item must include the~~  
 3.14 ~~following statement of the actuarial value of current assets as defined in section 356.215,~~  
 3.15 ~~subdivision 1:~~

	Value at cost	Value at market
3.16		
3.17		
3.18		
3.19	.....	.....
3.20	.....	.....
3.21	.....	.....
3.22	.....	.....
3.23		
3.24	.....	.....
3.25	.....	.....
3.26	.....	.....
3.27		
3.28		
3.29		
3.30	.....	.....
3.31	.....	.....
3.32		
3.33		.....
3.34		.....
3.35		
3.36		.....

3.37 ~~(c) The unfunded actuarial accrued liability of the fund or plan contained in the~~  
 3.38 ~~disclosure item must include the following measures of unfunded actuarial accrued~~  
 3.39 ~~liability, using the actuarial value of current assets:~~

4.1 ~~(1) the unfunded actuarial accrued liability, determined by subtracting the current~~  
 4.2 ~~assets and the present value of future normal costs from the total current and expected~~  
 4.3 ~~future benefit obligations; and~~

4.4 ~~(2) the unfunded pension benefit obligation, determined by subtracting the current~~  
 4.5 ~~assets from the actuarial present value of credited projected benefits.~~

4.6 ~~If the current assets of the fund or plan exceed the actuarial accrued liabilities, the~~  
 4.7 ~~excess must be disclosed and indicated as a surplus.~~

4.8 ~~(d) The pension benefit obligations schedule included in the disclosure must contain~~  
 4.9 ~~the following information on the benefit obligations:~~

4.10 ~~(1) the pension benefit obligation, determined as the actuarial present value of~~  
 4.11 ~~credited projected benefits on account of service rendered to date, separately identified~~  
 4.12 ~~as follows:~~

- 4.13 ~~(i) for annuitants,~~
- 4.14 ~~retirement annuities,~~
- 4.15 ~~disability benefits,~~
- 4.16 ~~surviving spouse and child benefits;~~
- 4.17 ~~(ii) for former members without vested~~
- 4.18 ~~rights;~~
- 4.19 ~~(iii) for deferred annuitants' benefits,~~
- 4.20 ~~including any augmentation;~~
- 4.21 ~~(iv) for active employees,~~
- 4.22 ~~accumulated employee contributions,~~
- 4.23 ~~including allocated investment income;~~
- 4.24 ~~employer-financed benefits vested;~~
- 4.25 ~~employer-financed benefits nonvested;~~
- 4.26 ~~total pension benefit obligation; and~~

4.27 ~~(2) if there are additional benefits not appropriately covered by the foregoing items~~  
 4.28 ~~of benefit obligations, a separate identification of the obligation.~~

4.29 ~~(e) (c) The report must contain an itemized exhibit describing the administrative~~  
 4.30 ~~expenses of the plan, including, but not limited to, the following items, classified on a~~  
 4.31 ~~consistent basis from year to year, and with any further meaningful detail:~~

- 4.32 ~~(1) personnel expenses;~~
- 4.33 ~~(2) communication-related expenses;~~
- 4.34 ~~(3) office building and maintenance expenses;~~
- 4.35 ~~(4) professional services fees; and~~
- 4.36 ~~(5) other expenses.~~

4.37 ~~(f) (d) The report must contain an itemized exhibit describing the investment~~  
 4.38 ~~expenses of the plan, including, but not limited to, the following items, classified on a~~  
 4.39 ~~consistent basis from year to year, and with any further meaningful detail:~~

5.1 (1) internal investment-related expenses; and

5.2 (2) external investment-related expenses.

5.3 ~~(g)~~ (e) Any additional statements or exhibits or more detailed or subdivided  
5.4 itemization of a disclosure item that will enable the management of the ~~fund~~ plan to  
5.5 portray a true interpretation of the ~~fund's~~ plan's financial condition must be included in the  
5.6 additional statements or exhibits.

5.7 Subd. 4a. **Financial report for police or firefighters relief association.** For any  
5.8 police or firefighter's relief association referred to in subdivision 2, clause ~~(12)~~ (11), a  
5.9 financial report that is duly filed and ~~meeting~~ meets the requirements of section 69.051  
5.10 ~~must be~~ is deemed to have met the requirements of subdivision 4.

5.11 Sec. 2. Minnesota Statutes 2006, section 356.215, subdivision 1, is amended to read:

5.12 Subdivision 1. **Definitions.** (a) For the purposes of sections 3.85 and 356.20 to  
5.13 356.23, each of the terms in the following paragraphs has the meaning given.

5.14 (b) "Actuarial valuation" means a set of calculations prepared by the actuary  
5.15 retained under section 356.214 if so required under section 3.85, or otherwise, by an  
5.16 approved actuary, to determine the normal cost and the accrued actuarial liabilities of  
5.17 a benefit plan, according to the entry age actuarial cost method and based upon stated  
5.18 assumptions including, but not limited to rates of interest, mortality, salary increase,  
5.19 disability, withdrawal, and retirement and to determine the payment necessary to amortize  
5.20 over a stated period any unfunded accrued actuarial liability disclosed as a result of the  
5.21 actuarial valuation of the benefit plan.

5.22 (c) "Approved actuary" means a person who is regularly engaged in the business  
5.23 of providing actuarial services and who has at least 15 years of service to major public  
5.24 employee pension or retirement funds or who is a fellow in the Society of Actuaries.

5.25 (d) "Entry age actuarial cost method" means an actuarial cost method under which  
5.26 the actuarial present value of the projected benefits of each individual currently covered  
5.27 by the benefit plan and included in the actuarial valuation is allocated on a level basis over  
5.28 the service of the individual, if the benefit plan is governed by section 69.773, or over the  
5.29 earnings of the individual, if the benefit plan is governed by any other law, between the  
5.30 entry age and the assumed exit age, with the portion of the actuarial present value which is  
5.31 allocated to the valuation year to be the normal cost and the portion of the actuarial present  
5.32 value not provided for at the valuation date by the actuarial present value of future normal  
5.33 costs to be the actuarial accrued liability, with aggregation in the calculation process to be  
5.34 the sum of the calculated result for each covered individual and with recognition given to  
5.35 any different benefit formulas which may apply to various periods of service.

6.1 (e) "Experience study" means a report providing experience data and an actuarial  
 6.2 analysis of the adequacy of the actuarial assumptions on which actuarial valuations are  
 6.3 based.

6.4 (f) "~~Current Actuarial value of assets~~" means:

6.5 (1) for the July 1, ~~2001~~ 2007, actuarial valuation, the market value of ~~all net~~ net assets  
 6.6 available for benefits as of June 30, 2001, reduced by: 2007;

6.7 ~~(i) 30 percent of the difference between the market value of all assets as of June 30,~~  
 6.8 ~~1999, and the actuarial value of assets used in~~

6.9 (2) for the July 1, 2008, actuarial valuation, the market value of net assets available  
 6.10 for benefits as of June 30, 2008, reduced by 80 percent of the difference between the actual  
 6.11 net change in the market value of assets between June 30, 2007, and June 30, 2008, and  
 6.12 the computed increase in the market value of assets between June 30, 2007, and June 30,  
 6.13 2008, if the assets had increased at the percentage preretirement interest rate assumption  
 6.14 used in the July 1, 2007, actuarial valuation;

6.15 (3) for the July 1, ~~1999~~ 2009, actuarial valuation, the market value of net assets  
 6.16 available for benefits as of June 30, 2009, reduced by:

6.17 ~~(ii)~~ (i) 60 percent of the difference between the actual net change in the market value  
 6.18 of assets between June 30, ~~1999~~ 2007, and June 30, ~~2000~~ 2008, and the computed increase  
 6.19 in the market value of assets between June 30, ~~1999~~ 2007, and June 30, ~~2000~~ 2008, if the  
 6.20 assets had increased at the percentage preretirement interest rate assumption used in the  
 6.21 July 1, ~~1999~~ 2007, actuarial valuation; and

6.22 ~~(iii)~~ (ii) 80 percent of the difference between the actual net change in the market  
 6.23 value of assets between June 30, ~~2000~~ 2008, and June 30, ~~2001~~ 2009, and the computed  
 6.24 increase in the market value of assets between June 30, ~~2000~~ 2008, and June 30, ~~2001~~  
 6.25 2009, if the assets had increased at the percentage preretirement interest rate assumption  
 6.26 used in the July 1, ~~2000~~ 2008, actuarial valuation;

6.27 ~~(2)~~ (4) for the July 1, ~~2002~~ 2010, actuarial valuation, the market value of ~~all net~~  
 6.28 assets available for benefits as of June 30, 2002 2010, reduced by:

6.29 ~~(i) ten percent of the difference between the market value of all assets as of June 30,~~  
 6.30 ~~1999, and the actuarial value of assets used in the July 1, 1999, actuarial valuation;~~

6.31 ~~(ii)~~ (i) 40 percent of the difference between the actual net change in the market value  
 6.32 of assets between June 30, ~~1999~~ 2007, and June 30, ~~2000~~ 2008, and the computed increase  
 6.33 in the market value of assets between June 30, ~~1999~~ 2007, and June 30, ~~2000~~ 2008, if the  
 6.34 assets had increased at the percentage preretirement interest rate assumption used in  
 6.35 the July 1, ~~1999~~ 2007, actuarial valuation;

7.1           ~~(iii)~~ (ii) 60 percent of the difference between the actual net change in the market  
7.2 value of assets between June 30, ~~2000~~ 2008, and June 30, ~~2001~~ 2009, and the computed  
7.3 increase in the market value of assets between June 30, ~~2000~~ 2008, and June 30, ~~2001~~  
7.4 2009, if the assets had increased at the percentage preretirement interest rate assumption  
7.5 used in the July 1, ~~2000~~ 2008, actuarial valuation; and

7.6           ~~(iv)~~ (iii) 80 percent of the difference between the actual net change in the market  
7.7 value of assets between June 30, ~~2001~~ 2009, and June 30, ~~2002~~ 2010, and the computed  
7.8 increase in the market value of assets between June 30, ~~2001~~ 2009, and June 30, ~~2002~~  
7.9 2010, if the assets had increased at the percentage preretirement interest rate assumption  
7.10 used in the July 1, ~~2001~~ 2009, actuarial valuation; or

7.11           ~~(5)~~ (5) for any actuarial valuation after July 1, ~~2002~~ 2010, the market value of ~~all~~  
7.12 net assets available for benefits as of the preceding June 30, reduced by:

7.13           (i) 20 percent of the difference between the actual net change in the market value of  
7.14 assets between the June 30 that occurred three years earlier and the June 30 that occurred  
7.15 four years earlier and the computed increase in the market value of assets over that  
7.16 fiscal year period if the assets had increased at the percentage preretirement interest rate  
7.17 assumption used in the actuarial valuation for the July 1 that occurred four years earlier;

7.18           (ii) 40 percent of the difference between the actual net change in the market value of  
7.19 assets between the June 30 that occurred two years earlier and the June 30 that occurred  
7.20 three years earlier and the computed increase in the market value of assets over that  
7.21 fiscal year period if the assets had increased at the percentage preretirement interest rate  
7.22 assumption used in the actuarial valuation for the July 1 that occurred three years earlier;

7.23           (iii) 60 percent of the difference between the actual net change in the market value of  
7.24 assets between the June 30 that occurred one year earlier and the June 30 that occurred two  
7.25 years earlier and the computed increase in the market value of assets over that fiscal year  
7.26 period if the assets had increased at the percentage preretirement interest rate assumption  
7.27 used in the actuarial valuation for the July 1 that occurred two years earlier; and

7.28           (iv) 80 percent of the difference between the actual net change in the market value  
7.29 of assets between the immediately prior June 30 and the June 30 that occurred one year  
7.30 earlier and the computed increase in the market value of assets over that fiscal year period  
7.31 if the assets had increased at the percentage preretirement interest rate assumption used in  
7.32 the actuarial valuation for the July 1 that occurred one year earlier.

7.33           (g) "Unfunded actuarial accrued liability" means the total current and expected  
7.34 future benefit obligations, reduced by the sum of the current actuarial value of assets and  
7.35 the present value of future normal costs.

8.1 ~~(h) "Pension benefit obligation" means the actuarial present value of credited~~  
 8.2 ~~projected benefits, determined as the actuarial present value of benefits estimated to be~~  
 8.3 ~~payable in the future as a result of employee service attributing an equal benefit amount,~~  
 8.4 ~~including the effect of projected salary increases and any step rate benefit accrual rate~~  
 8.5 ~~differences, to each year of credited and expected future employee service.~~

8.6 Sec. 3. Minnesota Statutes 2006, section 356.215, subdivision 2, is amended to read:

8.7 Subd. 2. **Requirements.** (a) It is the policy of the legislature that it is necessary  
 8.8 and appropriate to determine annually the financial status of tax supported retirement and  
 8.9 pension plans for public employees. To achieve this goal:

8.10 (1) the actuary retained under section 356.214 shall prepare annual actuarial  
 8.11 valuations of the retirement plans enumerated in section 356.214, subdivision 1, paragraph  
 8.12 (b), and quadrennial experience studies of the retirement plans enumerated in section  
 8.13 356.214, subdivision 1, paragraph (b), clauses (1), (2), and (7); and

8.14 (2) the commissioner of finance may have prepared by the actuary retained by the  
 8.15 commission, two years after each set of quadrennial experience studies, quadrennial  
 8.16 projection valuations of at least one of the retirement plans enumerated in section 6,  
 8.17 subdivision 1, paragraph (b), for which the commissioner determines that the analysis  
 8.18 may be beneficial.

8.19 (b) The governing or managing board or administrative officials of each public  
 8.20 pension and retirement ~~fund or~~ plan enumerated in section 356.20, subdivision 2, clauses  
 8.21 ~~(8), (9), (10), and (12)~~ (11), shall have prepared by an approved actuary annual actuarial  
 8.22 valuations of their respective ~~funds~~ plan as provided in this section. This requirement also  
 8.23 applies to any ~~fund or~~ plan that is the successor to any organization enumerated in section  
 8.24 356.20, subdivision 2, or to the governing or managing board or administrative officials  
 8.25 of any newly formed retirement fund, plan, or association operating under the control or  
 8.26 supervision of any public employee group, governmental unit, or institution receiving a  
 8.27 portion of its support through legislative appropriations, and any local police or fire ~~fund~~  
 8.28 relief association to which section 356.216 applies.

8.29 Sec. 4. **EFFECTIVE DATE.**

8.30 Sections 1 to 3 are effective June 30, 2007, and apply to annual financial reports and  
 8.31 actuarial valuations prepared after that date.