



TO: Members of the Legislative Commission on Pensions and Retirement

FROM: Ed Burek, Deputy Director

RE: S.F. 997 (Betzold, by request); H.F. 1753 (Wardlow): MSRS-Correctional;
Employee and Employer Contribution Rate Increases

DATE: March 22, 2005

Summary of S.F. 997 (Betzold, by request); H.F. 1753 (Wardlow)

S.F. 997 (Betzold, by request); H.F. 1753 (Wardlow) revises the Minnesota State Retirement System Correctional Plan (MSRS-Correctional) employee and employer contributions. The employee contribution is revised:

- from 5.69 percent to 6.4 percent of pay on July 1, 2005; to
- 7.0 percent of pay on July 1, 2006; to
- 7.7 percent of pay on July 1, 2007; and to
- 8.6 percent of pay on July 1, 2008.

The employer contribution is revised:

- from 7.98 percent to 9.1 percent of pay on July 1, 2005; to
- 10.1 percent of pay on July 1, 2006; to
- 11.1 percent of pay on July 1, 2007; and to
- 12.1 percent of pay on July 1, 2008.

The total increases over the 2005 through 2008 period is 2.91 percent of pay for the employees and 4.12 percent of pay for the employer, for a combined increase of 7.03 percent of payroll.

Background Information on MSRS-Correctional

The Correctional State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-Correctional) was established in 1973 as a result of collective bargaining by the State of Minnesota with the American Federation of State, County and Municipal Employees (AFSCME), Council 6, and the resulting implementing legislation. Up to that point, correctional guards and most other correctional system employees were covered by General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General). Some correctional system employees were covered by the Teachers Retirement Association (TRA). MSRS-Correctional was created as a separate plan, with the membership in 1973 largely limited to correctional guards and correctional counselors in adult correctional facilities. In subsequent years, the coverage group was expanded to include additional correctional positions in both adult and juvenile correctional facilities. Large increases occurred in the mid-1990s, with an increase of more than 400 state employees due to inclusion of 33 additional employment classifications who were certified by the Department of Corrections or the Department of Human Services as having at least 75 percent inmate or patient contact, and an additional 31 positions at correctional facilities or at the state security hospital. In 1999, the MSRS-Correctional Plan membership was increased by an estimated 115 state employees employed in nine employment positions with the Minnesota Extended Treatment Option (METO) on-campus program at the Cambridge Regional Human Services Center. In 2000, various other positions were added, providing that the individual was certified as having at least 75 percent inmate contact. A partial list of positions included the director and assistant group supervisor of the former Phoenix/Pomiga treatment/behavioral change program at the Minnesota Correctional facility at St. Cloud, and the following positions at certain correctional facilities: registered nurse practitioners, behavioral analyst 2, psychologist 2, dental hygienist, dental assistant registered. In 2004, three positions at the Minnesota Correctional Facility-Rush City, were added, which are the correctional discipline unit supervisor, dental hygienist, and psychologist 2.

About 85 percent of MSRS-Correctional Plan members are Department of Corrections employees and about 15 percent are Department of Human Services employees. The correctional facilities with the largest numbers of MSRS-Correctional Plan members are MCF-Stillwater, MCF-Lino Lakes, MCF-St. Cloud, and MCF-Faribault. The plan currently has 3,326 members covering approximately 100 employment classifications. Correctional officers comprise the largest single occupational group covered by the plan.

One of the attractions of MSRS-Correctional for groups seeking this coverage is that the plan pays higher benefits than a general employee plan and has an earlier normal retirement age. While this coverage is advantageous to the employee, it is more expensive for the employer because of the higher benefits and earlier retirement age in the Correctional Plan compared to the General Plan. The Correctional Plan offers a hybrid of general employee plan and public safety plan features. MSRS-Correctional members are

coordinated members, like members of MSRS-General and unlike members of the Public Employees Retirement Association Police and Fire Plan (PERA-P&F). Like a public safety plan, members can retire without a reduction for early retirement at age 55 or with a reduction at age 50. This annuity is computed using a 2.4 percent per-year-of-service benefit accrual factor. (For each year of covered service, the individual will receive 2.4 percent of the high-five average salary, which is the five years of covered salary which produces the highest average.) Duty-related disability benefits are generous, typical of a public safety plan. The duty-related disability receives 50 percent of high-five average salary, plus 2.4 percent of high-five average salary for each year in excess of 20 years of allowable service. Also like a public safety plan, MSRS-Correctional uses an occupational definition of disability rather than the total impairment disability definition used by MSRS-General.

Another attraction of MSRS-Correctional coverage is that post-retirement health care coverage may be provided by the employer. MSRS administrators indicate that eligibility may depend upon the specific union to which the member belongs.

The public safety-type features of this plan make the plan considerably more expensive than a general employee plan. In 1993, the actuary computed the total contribution requirements of this plan to be 15.83 percent of pay, while the MSRS-General total requirement was 9.43 percent of pay, a difference of 6.4 percent of pay.

Besides the level of cost, another difference between public safety plans and general employee plans is the way cost is shared between the employees and employer. In general employee plans the norm is to share cost equally, at least the normal cost plus expenses. In contrast, in public safety plans the norm is to have the employees pay approximately 40 percent of these costs while the employer pays about 60 percent.

The premise for MSRS-Correctional coverage is that certain employment positions in correctional or analogous security hospital or psychopathic personality treatment center service place individuals in a high degree of physical danger, and there is sufficient need for a particularly vigorous workforce in these specific positions to warrant a separate plan with larger retirement benefits payable at an earlier normal retirement age.

Background Information on the MSRS-Correctional Contribution Deficiency

S.F. 997 (Betzold, by request); H.F. 1753 (Wardlow) is an effort to address the contribution deficiency of MSRS-Correctional. The deficiencies in this fund as indicated in the actuarial reports have occurred only recently, beginning in 2000.

1. Overview of Recent MSRS-Correctional Plan Contribution Sufficiencies/Deficiencies. Attached to this memo is a chart summarizing the MSRS-Correctional actuarial reports from 1991 through 2004. Prior to 1999, the total contributions were approximately equal to the total requirements. In any actuarial work, there is always some year-to-year variation, which in some years resulted in modest contribution deficiencies and in other years modest contribution sufficiencies, with no obvious pattern. The funding ratio has been high from the early 1990s to the current date, but has dropped in the last few years, reflecting in part the strong investment markets throughout much of the period followed by recent weak periods. The fund was 94.43 percent funded in 1991 reached 100 percent or more funded in 1993. In the last couple of years, 2003 and 2004, the fund has dropped below full funding.
2. Actions Taken in 1997. To understand some of the funding changes that have occurred in the last several years, it is helpful to begin with 1997. Several changes occurred in 1997, due to actions by the Legislature, which began to impact the plan's funding. The first was that a significant benefit improvement/benefit revision bill was enacted, and part of that bill revised the MSRS-Correctional Plan and increased the plan contribution rates. The most significant benefit change was a revision in the retirement benefit. A 2.4 percent accrual rate level benefit was created, providing individuals with a level benefit of 2.4 percent of their high-five average salary per year of service, rather than a prior system of using a 2.5 percent accrual rate until the retiree reaches age 62 (the minimum age to begin receiving Social Security benefits) and then providing a recomputed benefit of 1.5 percent of the high-five salary per year of service. The second significant change was that reverse amortization was enacted for this plan, which previously had been used only for the PERA-P&F plan.

These impacts are evident in the July 1, 1997, actuarial valuation. The plan normal cost increased from 11.05 percent a year earlier to 14.34 percent, raising the total contribution requirements significantly. This was covered by a combination of the new employee contribution rate of 5.50 percent and the new employer contribution rate of 7.70 percent, and negative amortization. The plan was more than fully funded, and part of the assets above 100 percent funding were used through that negative amortization process to lower the contribution requirement below what it otherwise would have been. The end result was that the 1997 actuarial valuation showed a contribution surplus of .71 percent of pay. However, the apparent health of the fund was now dependent upon the surplus assets. The total contributions made to the fund by the employees and employers were less than the plan

normal cost and expenses, which was 14.52 percent of payroll. Over the course of the next several years the surplus assets disappeared, some of it used up by the negative amortization, and much of it disappearing when the investment markets went bad.

3. Revisions in 2000. Numerous changes in actuarial assumptions and actuarial procedures occurred in 2000. Revisions were adopted in the male and female pre-retirement and post-retirement mortality tables, the male and female post-disability mortality table, retirement age, separation (termination) assumptions, and disability assumptions. Statutory revisions included a revision in age-related salary increase factors, and a revision in negative amortization procedures. Rather than using 2020 as the amortization date if negative amortization is occurring, the plan will use rolling 30-year negative amortization, pushing the amortization date for this plan from 2020 to 2030.

The Legislature also revised the way the actuarial value of assets is computed, moving to a system based on market value and weighted past deviations between the expected value of assets assuming 8.5 percent investment returns, and the actual value of assets given the investment return that actually occurred (Laws 2000, Chapter 461, Article 1, Section 3).

The impact of all of these changes is reflected in the 2000 actuarial valuation. There was little impact on plan normal cost; it actually decreased slightly compared to a year earlier. The plan, however, did move into a slight deficiency situation, .05 percent of payroll.

4. Impacts on Later Valuations. Over the next few actuarial valuations, the plan normal cost drifted upwards by .3 to .4 percent of payroll, and the impact of bad investment markets in the early 2000s began to show. The funding ratio fell after 2001, and there was less negative amortization to offset the total contribution requirements. By the 2003 actuarial valuation, the surplus assets had disappeared as the funding ratio fell to 97.06 percent. Rather than negative amortization to decrease the apparent total requirements, there was a need to amortization some unfunded liability. Since the employee and employer contributions are not sufficient to cover the normal cost and expenses, a not insignificant contribution deficiency occurred.
5. Current Situation. All surplus assets have dissipated due to the investment markets and the use of previous surplus assets to cover the difference between the total employee and employer contributions and the total requirements. If all actuarial assumptions were to hold in the future, including the assumed annual 8.5 percent investment return, the contribution deficiencies will begin to create more unfunded liability, adding to the amortization requirement and worsening the deficiency. Without an increase in the contribution rate to cover the portion of normal cost plus expenses that is now uncovered, and a further increase to cover the amortization requirement, the funding ratio will fall further, and the total contribution requirement will grow due to further increases in the amortization requirement.

In a realistic setting, the outcome is less certain. Plan experience will depart from the assumptions, and investment markets are rarely average, tending to go through periods of above-average returns followed by periods of below-average returns. Good investment markets could create funding ratios in this plan above 100 percent, again creating negative amortization to cover the inability of current contributions to cover the full normal cost plus expenses. Weak investment markets would have the opposite effect, harming the MSRS-Correctional funding ratio, adding to the amortization requirement, and creating further deficiencies in contribution requirements.

Issue: Transition from Negative Amortization to Positive Amortization

The actuarial work for the plan indicates that in 2002 the plan had some assets in excess of its liabilities, since its funding ratio was 102 percent. Because there were surplus assets, some negative amortization occurred. By 2003, the surplus assets had disappeared as the plan fell to a 97 percent funding ratio in 2003 and to 93 percent in 2004. As the plan shifted from having surplus assets in 2002 to an unfunded liability in 2003, the full funding date should have dropped from 2032 to 2020 in the 2003 valuation, but it did not. That seems to reflect an error in the actuarial work for the plan. In 2004, the new actuary jointly retained by the pension funds dropped the full funding date to 2020, a change which probably should have occurred a year earlier. Shortening the amortization period gives less time to pay off unfunded liabilities, raising the amortization factor above what would occur if the amortization date remained at 2032. If the amortization date were left at 2032, the amortization requirement would be about 1.5 percent of pay rather than 2.31 percent of salary, and the contribution deficiency would be 3.0 percent of salary, rather than 3.81 percent of salary.

Shortening the amortization period does seem a correct interpretation of existing law, but the Legislative Commission on Pensions and Retirement may wish to review the policy and may choose to revise the law. The applicable law is Minnesota Statutes, Section 356.215, Subdivision 11. Paragraph (f) governs the amortization date in the 2002 and earlier valuations. That provision states that if a plan has assets in excess of its liabilities, negative amortization will be used over a rolling 30-year period beginning anew with each actuarial valuation. That resulted in a 2032 amortization date in the 2002 valuation. When the plan dipped below full funding in 2003, procedures governing full funding dates for plans with unfunded

liabilities should have been used. Those provisions are stated in paragraphs (b) and (c) of the subdivision. If there were no actuarial assumption changes, benefit changes, or changes in the actuarial cost method, paragraph (c) governs, which indicates a full funding date of 2020.

While this appears to be the proper interpretation of law, the result may not reflect the best pension policy. The Commission may choose to amend Section 356.215, Subdivision 11. A reasonable approach which the Commission may wish to consider, for plans that were using negative amortization and suddenly find themselves with unfunded liabilities, is to revise the full funding date to coincide with the average remaining working lifetime of the covered membership, rather than reverting to 2020. Using 2020 is problematic now, and will be more problematic as the 2020 date draws nearer.

Recent Experience Study Results

Mercer Human Resources Consulting, the Minnesota State Retirement System (MSRS) actuary, completed an MSRS-Correctional Plan experience study in 2004 covering the 1998-2003 period. The results of that experience study lead to recommendations for revising demographic actuarial assumptions which, if adopted by the Commission, would considerably increase plan costs and the required contributions. Revising demographic assumptions does not require a revision of law, but it does require review and approval by the Commission. If the Commission does not adopt the changes, the old assumptions would continue to be used in the valuations.

The MSRS actuary commented on several areas, as follows:

1. Withdrawal. Although the current assumptions already assume low turnover compared to a general employee plan, actual turnover for members who had three or more years of service was about half the predicted numbers. In contrast, those with less than three years of service had more terminations than expected.
2. Retirement. The assumed retirements at age 55, the normal retirement age for this fund, fit reasonably well, but early retirements are considerably more than predicted for ages 50 to 53, and fewer retirements are occurring after age 55 than predicted.
3. Mortality. Active member mortality provided too small a sample size to be meaningful. There were fewer deaths for retired males than expected and slightly higher than expected death rates for the females.
4. Disability. Disabilities are occurring at far higher rates than predicted.
5. Salary Scale. Actual salary increases are less than expected.

Mercer developed specific recommendations to reduce the assumed withdrawal (termination) assumptions and to use different rates during the first three years of employment, to revise retirement age assumptions, to strengthen the pre- and post-retirement mortality assumptions, and to revise disability assumptions to assume considerably more disability for males than currently assumed, and to double the assumed female disability rates. Although the actuary noted that salary increases were less than assumed, the actuary declined to recommend any new assumptions in that area.

The proposed changes were reviewed in June 2004 by Thomas Custis, consulting actuary for Milliman USA, which at that time was the actuarial firm retained by the Legislative Commission on Pensions and Retirement. He supported the suggested changes in the withdrawal, retirement, and disability assumptions, but he questioned the specific proposed retiree mortality assumptions. Under the initial Mercer mortality proposal, MSRS-Correctional Plan retirees were assumed to live shorter lives than MSRS-General Plan retirees, or State Patrol Plan retirees under the new proposed State Patrol Plan assumptions. Since there is little theoretical reason to suggest that State Patrol Plan retirees and MSRS-Correctional Plan retirees should have different mortality experience, Mr. Custis suggested that the proposed Mercer MSRS-Correctional Plan mortality recommendations should be the same as that which Mercer proposed for the State Patrol Plan. Mercer accepted that recommendation by Mr. Custis.

Proposed Actuarial Assumption Changes

The proposed actuarial assumption changes, as revised following the review by Mr. Custis, are as shown in the following four tables. The information is as provided by MSRS and displays the current and proposed turnover, retirement age, disability, and mortality assumptions, respectively.

Turnover acts to reduce plan costs because, at least for those who terminate with little service, the best option is to take a refund. The refund includes employee contributions plus six percent interest. The remaining investment earnings on those contributions, plus the employer contributions and all investment earnings on those contributions, stay in the fund and are used to finance benefits for those who remain.

The proposed turnover assumptions, in the first table below, indicate a considerable reduction in assumed turnover. Less turnover will increase plan contribution rate requirements considerably.

The turnover assumption in the table for each age is expressed as the number of terminations in an assumed population of 10,000. Alternatively, these could be expressed as percentages. For example, at age 20 under the proposed assumptions it is expected that for males there will be 1,200 terminations during the year per 10,000 assumed employees or, alternatively, the assumed probability that a male worker aged 20 will terminate during the year is 12 percent. At age 25, there are expected to be 735 terminations per 10,000 assumed male employees, or a 7.35 percent probability of terminating. At age 35, the probability of terminating is 3.0 percent. These probabilities decrease with age.

During the first three years of employment for any given employee, the probabilities reflected in the table will not be used. Instead, the assumed probability of terminating will be 10.0 percent in each of those first three years, or 1,000 terminations per 10,000 individuals.

Table 1
Turnover (Separation) Assumptions – Current and Proposed Rates
MSRS-Correctional Plan

Age	Current Assumption Per 10,000 Occurrences		Current Assumption Percentages		Proposed Assumption* Per 10,000 Occurrences		Proposed Assumption Percentages	
	Male	Female	Male	Female	Male	Female	Male	Female
20	2,400	1,600	24.0%	16.0%	1,200	800	12.0%	8.00%
21	2,200	1,560	22.0%	15.6%	1,100	780	11.0%	7.80%
22	2,000	1,520	20.0%	15.2%	1,000	760	10.0%	7.60%
23	1,810	1,480	18.1%	14.8%	905	740	9.05%	7.40%
24	1,630	1,450	16.3%	14.5%	815	725	8.15%	7.25%
25	1,470	1,420	14.7%	14.2%	735	710	7.35%	7.10%
26	1,330	1,400	13.3%	14.0%	665	700	6.65%	7.00%
27	1,210	1,380	12.1%	13.8%	605	690	6.05%	6.90%
28	1,100	1,370	11.0%	13.7%	550	685	5.50%	6.85%
29	1,000	1,360	10.0%	13.6%	500	680	5.00%	6.80%
30	910	1,350	9.1%	13.5%	455	675	4.55%	6.75%
31	830	1,340	8.3%	13.4%	415	670	4.15%	6.70%
32	760	1,330	7.6%	13.3%	380	665	3.80%	6.65%
33	700	1,320	7.0%	13.2%	350	660	3.50%	6.60%
34	650	1,310	6.5%	13.1%	325	655	3.25%	6.55%
35	600	1,290	6.0%	12.7%	300	645	3.00%	6.45%
36	560	1,260	5.6%	12.6%	280	630	2.80%	6.30%
37	520	1,220	5.2%	12.2%	260	610	2.60%	6.10%
38	490	1,170	4.9%	11.7%	245	585	2.45%	5.85%
39	460	1,110	4.6%	11.1%	230	555	2.30%	5.55%
40	440	1,040	4.4%	10.4%	220	520	2.20%	5.20%
41	420	960	4.2%	9.6%	210	480	2.10%	4.80%
42	400	870	4.0%	8.7%	200	435	2.0%	4.35%
43	380	780	3.8%	7.8%	190	390	1.9%	3.90%
44	360	700	3.6%	7.0%	180	350	1.8%	3.50%
45	340	640	3.4%	6.4%	170	320	1.7%	3.20%
46	320	590	3.2%	5.9%	160	295	1.6%	2.95%
47	300	560	3.0%	5.6%	150	280	1.5%	2.80%
48	280	530	2.8%	5.3%	140	265	1.4%	2.65%
49	260	500	2.6%	5.0%	130	250	1.3%	2.50%
50	240	470	2.4%	4.7%	120	235	1.2%	2.35%
51	220	440	2.2%	4.4%	110	220	1.1%	2.20%
52	200	410	2.0%	4.1%	100	205	1.0%	2.05%
53	180	390	1.8%	3.9%	90	195	.90%	1.95%
54	160	360	1.6%	3.6%	80	180	.80%	1.80%
55	140	330	1.4%	3.3%	70	165	.70%	1.65%
56	120	290	1.2%	2.9%	60	145	.60%	1.45%
57	100	230	1.0%	2.3%	50	115	.50%	1.15%
58	70	170	.7%	1.7%	35	85	.35%	.85%
59	40	90	.4%	.9%	20	45	.20%	.45%
60	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0

* Age-related rates apply after the three-year select period. During the first three years of employment, the rate is 1,000 per 10,000 occurrences or ten percent.

Table 2 displays the change in retirement assumptions, again in the form of occurrences per 10,000. Under the proposed assumptions, five percent of employees age 50 will retire in that year, 60 percent of employees age 55 will retire in that year, and all employees who remain to age 65 are assumed to retire at age 65. More individuals are expected to retire in the earliest eligible ages (age 50 through 53) than in the existing table, but considerably fewer are expected to retire at age 54.

**Table 2
Retirement Age Assumptions – Current and Proposed Rates
MSRS-Correctional Plan**

Age	Current Assumption Per 10,000 Occurrences		Current Assumption Percentages		Proposed Assumption Per 10,000 Occurrences		Proposed Assumption Percentages	
	Male	Female	Male	Female	Male	Female	Male	Female
50	200	200	2.0%	2.0%	500	500	5.0%	5.0%
51	200	200	2.0%	2.0%	500	500	5.0%	5.0%
52	200	200	2.0%	2.0%	500	500	5.0%	5.0%
53	200	200	2.0%	2.0%	500	500	5.0%	5.0%
54	2,000	2,000	20.0%	20.0%	500	500	5.0%	5.0%
55	6,000	6,000	60.0%	60.0%	6,000	6,000	60.0%	60.0%
56	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
57	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
58	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
59	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
60	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
61	2,000	2,000	20.0%	20.0%	1,000	1,000	10.0%	10.0%
62	5,000	5,000	50.0%	50.0%	2,500	2,500	25.0%	25.0%
63	5,000	5,000	50.0%	50.0%	2,500	2,500	25.0%	25.0%
64	5,000	5,000	50.0%	50.0%	2,500	2,500	25.0%	25.0%
65	10,000	10,000	100.0%	100.0%	10,000	10,000	100.0%	100.0%
66	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0

Table 3 displays the information provided by the Minnesota State Retirement System (MSRS) for mortality changes. The mortality tables are named and are meaningful for actuaries but, for Commission purposes, displaying an actual set of probabilities of death or probabilities of survival would be more useful. The proposed change will increase plan cost.

**Table 3
Mortality Assumptions - Current and Proposed Tables
MSRS-Correctional Plan**

	Current Assumption	Proposed Assumption
Pre-Retirement	Male: 1983 Group Annuity Mortality set back 1 year Female: 1983 Group Annuity Mortality	Male: 1983 Group Annuity Mortality set back 5 years Female: 1983 Group Annuity Mortality set back 2 years
Post-Retirement	Male: 1983 Group Annuity Mortality set forward 2 years Female: 1983 Group Annuity Mortality set forward 2 years	Male: 1983 Group Annuity Mortality set back 2 years Female: 1983 Group Annuity Mortality set back 1 year
Post-Disability	Combined Annuity Mortality	Combined Annuity Mortality up to age 40, grading to healthy mortality for ages 60 and up

Table 4 displays the existing and proposed disability assumptions. The new assumptions would increase the probability of disability at every age for males, and would double disability rates for females, adding to plan costs.

Table 4
Disability Assumptions – Current and Proposed Rates
MSRS-Correctional Plan

Age	Current Assumption Per 10,000 Occurrences		Current Assumption Percentages		Proposed Assumption Per 10,000 Occurrences		Proposed Assumption Percentages	
	Male	Female	Male	Female	Male	Female	Male	Female
20	4	4	.04%	.04%	5	8	.05%	.08%
21	4	4	.04%	.04%	5	8	.05%	.08%
22	5	5	.05%	.05%	7	10	.07%	.10%
23	5	5	.05%	.05%	7	10	.07%	.10%
24	6	6	.06%	.06%	8	12	.08%	.12%
25	6	6	.06%	.06%	8	12	.08%	.12%
26	6	6	.06%	.06%	8	12	.08%	.12%
27	7	7	.07%	.07%	9	14	.09%	.14%
28	7	7	.07%	.07%	9	14	.09%	.14%
29	8	8	.08%	.08%	11	16	.11%	.16%
30	8	8	.08%	.08%	11	16	.11%	.16%
31	9	9	.09%	.09%	12	18	.12%	.18%
32	9	9	.09%	.09%	12	18	.12%	.18%
33	10	10	.10%	.10%	13	20	.13%	.20%
34	10	10	.10%	.10%	13	20	.13%	.20%
35	11	11	.11%	.11%	15	22	.15%	.22%
36	12	12	.12%	.12%	16	24	.16%	.24%
37	13	13	.13%	.13%	17	26	.17%	.26%
38	15	15	.15%	.15%	20	30	.20%	.30%
39	16	16	.16%	.16%	21	32	.21%	.32%
40	18	18	.18%	.18%	24	36	.24%	.36%
41	20	20	.20%	.20%	27	40	.27%	.40%
42	22	22	.22%	.22%	29	44	.29%	.44%
43	24	24	.24%	.24%	32	48	.32%	.48%
44	26	26	.26%	.26%	35	52	.35%	.52%
45	29	29	.29%	.29%	39	58	.39%	.58%
46	32	32	.32%	.32%	43	64	.43%	.64%
47	36	36	.36%	.36%	48	72	.48%	.72%
48	41	41	.41%	.41%	55	82	.55%	.82%
49	46	46	.46%	.46%	61	92	.61%	.92%
50	50	50	.50%	.50%	67	100	.67%	1.00%
51	57	57	.57%	.57%	76	114	.76%	1.14%
52	64	64	.64%	.64%	85	128	.85%	1.28%
53	72	72	.72%	.72%	96	144	.96%	1.44%
54	80	80	.80%	.80%	107	160	1.07%	1.60%
55	88	88	.88%	.88%	117	176	1.17%	1.76%
56	98	98	.98%	.98%	131	196	1.31%	1.96%
57	108	108	1.08%	1.08%	144	216	1.44%	2.16%
58	118	118	1.18%	1.18%	157	236	1.57%	2.36%
59	129	129	1.29%	1.29%	172	258	1.72%	2.58%
60	141	141	1.41%	1.41%	188	282	1.88%	2.82%
61	154	154	1.54%	1.54%	205	308	2.05%	3.08%
62	167	167	1.67%	1.67%	223	334	2.23%	3.34%
63	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0

Impact on Plan

Table 5 below is information provided by Mercer and Minnesota State Retirement System (MSRS) demonstrating the impact of each of the proposed changes on the July 1, 2002, actuarial results. The turnover (withdrawal) change has the largest impact, adding 2.1 percent of pay to the contribution requirements. The revised mortality assumption changes would add 1.8 percent of pay, while disability assumption changes add .8 percent of pay. The retirement assumption changes decrease costs slightly. The total impact from all of the assumption changes combined is 4.2 percent of pay, which would have increased the total required contributions in 2002 from 14.7 percent of pay to 18.9 percent of pay.

**Table 5
Impact of Recommended Assumption Changes as of July 1, 2002
MSRS-Correctional Plan**

	Before Assumption Changes	Mortality	Disability*	Retirement	Withdrawal	Total	After Assumption Changes
Normal Cost	15.0%	0.7%	0.6%	-0.3%	2.0%	3.0%	18.0%
Supplemental Contribution	-0.5%	1.1%	0.2%	-0.2%	0.1%	1.2%	0.7%
Expense Allowance	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Total Required Contribution	14.7%	1.8%	0.8%	-0.5%	2.1%	4.2%	18.9%
Statutory Contributions	13.7%						13.7%
Sufficiency/(Deficiency)	-1.0%						-5.2%

* Disability rates and disability mortality

The impact of these changes on the 2002 valuation as displayed in a presentation comparable to that used in the attachment is shown below.

**Table 6
Impact of Actuarial Changes on 2002 MSRS-Correctional Valuation**

	2002	Difference Between 2002 and Impact of Changes		Impact of Changes on 2002 Valuation	
<u>Membership</u>					
Active Members	3,249				3,249
Service Retirees	754				754
Disabilitants	115				115
Survivors	69				69
Deferred Retirees	550				550
Nonvested Former Members	<u>268</u>				<u>268</u>
Total Membership	5,005				5,005
<u>Funded Status</u>					
Accrued Liability	\$446,426,000		\$28,052,255		\$474,478,255
Current Assets	<u>\$457,416,000</u>				<u>\$457,416,000</u>
Unfunded Accrued Liability	(\$10,990,000)		\$28,052,255		\$17,062,255
Funding Ratio	102.46%		(6.06%)		96.40%
<u>Financing Requirements</u>					
Covered Payroll	\$131,232,000				\$131,232,000
Benefits Payable	\$17,105,000				\$17,105,000
Normal Cost	14.97%	\$19,646,000	3.03%	\$3,975,760	18.00%
Administrative Expenses	<u>0.21%</u>	<u>\$276,000</u>			<u>0.21%</u>
Normal Cost & Expense	15.18%	\$19,922,000	3.03%	\$3,975,760	18.21%
Normal Cost & Expense	15.18%	\$19,922,000	3.03%	\$3,975,760	18.21%
Amortization	<u>(0.45%)</u>	<u>(\$591,000)</u>	1.15%	<u>\$1,509,624</u>	<u>0.70%</u>
Total Requirements	14.73%	\$19,331,000	4.18%	\$5,485,384	18.91%
Employee Contributions	5.69%	\$7,467,000			5.69%
Employer Contributions	7.98%	\$10,472,000			7.98%
Employer Add'l Cont.	0.00%	\$0			0.00%
Direct State Funding	0.00%	\$0			0.00%
Other Govt. Funding	0.00%	\$0			0.00%
Administrative Assessment	<u>0.00%</u>	<u>\$0</u>			<u>0.00%</u>
Total Contributions	13.67%	\$17,939,000			13.67%
Total Requirements	14.73%	\$19,331,000	4.18%	\$5,485,384	18.91%
Total Contributions	<u>13.67%</u>	<u>\$17,939,000</u>			<u>13.67%</u>
Deficiency (Surplus)	1.06%	\$1,392,000	4.18%	\$5,485,384	5.24%

A problem for the Commission is that the actuary demonstrated the impact on the 2002 actuarial valuation results, which seems odd given that the experience study included experience through 2003. The results may not hold exactly if applied against the 2004 valuation. A second problem is that the actuary did not indicate in the information displayed in Table 5 whether the actuary's computations were based on a revised full funding date. The results provided by the actuary indicate that the plan will go, as a result of the revised actuarial assumptions, from an overfunded condition with negative amortization and a 2032 full funding date, to an underfunded condition requiring positive amortization and a full funding date which is unclear, but presumably is shorter than 2032. It is not known how the actuary interpreted Section 356.215, Subdivision 11, for purposes of making the computations. Different full funding dates will lead to different amortization requirements.

Discussion and Analysis

S.F. 997 (Betzold, by request); H.F. 1753 (Wardlow) revises the MSRS-Correctional employee and employer contributions in several annual steps, beginning on July 1, 2005. The employee contribution, currently 5.67 percent of pay, will increase to 8.6 percent of pay by July 1, 2008. The employer contribution rises from the current 7.98 percent of pay to 12.1 percent of pay on July 1, 2008.

The total increases over the 2005 through 2008 period is 2.91 percent of pay for the employees and 4.12 percent of pay for the employer, for a combined increase of 7.03 percent of payroll.

The bill raises various pension and related public policy issues, as follows:

1. Adoption of Actuarial Assumption Changes. The Commission may wish to decide whether to adopt the assumption changes proposed by the MSRS actuary, as revised after comments from Mr. Custis, who had been the lead actuary on the Milliman USA team that the Commission retained until last session. If these are not adopted, the existing assumptions would continue to be used in future actuarial valuations. The Commission might choose to delay any adoption until the interim, if the Commission feels it does not have sufficient time to study and address the matter at this time. If the Commission chooses not to adopt these assumptions, there is little reason to further consider this bill, which presumably revises contribution rates to reflect the proposed actuarial assumptions.
2. Contribution Increase/Increase Amount. If the Commission does adopt the assumption changes, the issue is whether there is sufficient information supporting the requested contribution increase. The information provided by the MSRS actuary, which was presented in Table 5 above, indicates that if the cost impact of the assumption changes is integrated into the 2002 valuation, the plan goes from having negative amortization to having positive amortization. The actuary did not indicate whether a revised full funding date was applied, or how that date might be determined. State law (Section 356.215, Subdivision 11) indicates that a revised full funding date should be used if a plan goes from a surplus asset position to an unfunded liability, but it is unclear in law how that new target date should be set. This particular scenario was not foreseen when the law was last revised. In any event, the actuary is indicating that the plan would have had a 5.2 percent contribution deficiency in 2002, while MSRS is asking for a much larger increase, 7.03 percent of payroll. It is not clear what information supports that increase request. The Commission may wish to have MSRS demonstrate why it believes an increase is justified, and why 7.03 percent is a proper increase amount.
3. Current Need to Address/ Sufficient Resources. The issue is whether there is sufficient need and sufficient resources to address the MSRS-Correctional contribution deficiency at this time. It is possible that improvements in investment markets may lessen the immediate problem without a need for legislative action. The Commission may conclude that other matters, such as the funding problem of the Minneapolis Teachers Retirement Fund Association (MTRFA) and the St. Paul Teachers Retirement Fund Association (SPTRFA) are more urgent. The Commission may also wish to be aware that several other pension funds have bills requesting increased contributions, including the State Patrol Retirement Plan, the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), General Employees Retirement Plan of the Public Employees Retirement Association (PERA-General), and Public Employees Police and Fire Plan (PERA-P&F).
4. Cost. The issue is the added cost on the state employing units. The employer contribution increase will increase employer cost by \$1.56 million in the year beginning July 1, 2005, by \$3.11 million the next year, by \$4.82 million the following year, and by \$6.7 million in beginning on July 1, 2008. Thereafter, the \$6.7 million amount for 2008 will increase over time by the rate of increase in covered payroll. Any further shift of employees into the MSRS-Correctional Plan will add to these totals.
5. Negative Amortization Issues. As part of long-term solutions to the MSRS-General, MSRS-Correctional, State Patrol, PERA-General, and PERA-P&F funding issues, the Commission may wish to revisit the use of negative amortization. Use of negative amortization masks the problem of contribution rates that are not sufficient to cover normal costs and expenses. In reality, the surplus assets are not slowly worked off over very long time periods, as assumed in the law and in the

negative amortization calculation, but rather in a very brief period of time when there is a severe turn in the investment markets. Suddenly, the plan can find itself in a situation where there are no surplus assets, the plan is less than fully funded, and the contributions are noticeably deficient.

With MSRS-Correctional, negative amortization was added to its governing law in 1997, the year in which a significant benefit improvement was added to the plan. Those plan changes caused a significant increase in normal cost to 14.34 percent of payroll, and the total contributions to the plan, 13.2 percent of pay, were insufficient to cover the ongoing cost (normal cost plus expenses), which was 14.52 percent of pay. That benefit increase caused an imbalance, hidden by the negative amortization. By 2003, all surplus assets were gone, even without considering the impact of the experience study assumption changes, and the imbalance is adding to the deficiency.

6. Phase-In Issues. The issue is the phase-in of increases over a multi-year period, with the last to occur on July 1, 2008. The Commission may wish to shorten or lengthen that phase-in period. The phase-in period may help the state to budget for the change, but a phase-in period will delay fully addressing the problem (assuming a problem remains) and results in additional unfunded liability, which increases the total cost of eliminating the deficiency. A shorter phase-in period will lower the total cost; a longer phase-in period will increase the total cost.
7. Position of Employee Groups. The Commission may wish to have testimony by state public employee unions or other groups impacted by this legislation to hear their concerns and to determine the level of their support for this bill.

Potential Amendments for Commission Consideration

Amendment LCPR05-120 would eliminate all but the first increase. That first increase would bring the total contributions to 15.5 percent of pay, which is somewhat in excess of the normal cost plus expenses, which were 15.16 percent of pay according to the 2004 actuarial valuation.

Amendment LCPR05-121 is comparable to LCPR05-120, but it also would change the start of the contribution rate increase from July 1, 2005, to a date to be set.

Amendment LCPR05-122 is an alternative to either of the earlier amendments and would include the first two increases (the July 1, 2005, and 2006 increases) while eliminating the 2007 and 2008 increases. The July 1, 2005 and 2006, increases would create total contributions of 17.1 percent of salary.

Amendment LCPR05-123 is identical to LCPR05-122, but deletes the start dates for the increases, to be reset at dates to be determined.

Amendment LCPR05-124 could be used with amendment LCPR05-122 or LCPR05-123, or independently. LCPR05-124 states that if, following the implementation of any increase specified in the bill, the next actuarial valuation indicates that the total requirements determined by the actuary show no contribution deficiency, then any later contribution increases specified in the bill shall not be implemented.

Amendment LCPR05-146 would revise general law to specify that if a plan is more than fully funded (and thus negative amortization is applied) and then a later valuation indicates unfunded liabilities, the full funding date will be reset at the average remaining working lifetime of the active employees, determined by subtracting the average age of the active employees from the normal retirement age.

Resolution 05-2 is the statement of approval that the Commission would need to adopt to have the proposed assumptions adopted and used in future actuarial valuations.