Public Employees Retirement Association of Minnesota

Actuarial Valuation and Review
as of July 1, 2004

SEGAL

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January 12, 2005

Ms. Mary Most Vanek
Public Employees Retirement Association of Minnesota
60 Empire Drive, Suite 200
St. Paul, Minnesota 55103-2088

Dear Ms. Most Vanek:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2004. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2005 and analyzes the preceding year's experience.

The census and financial information on which our calculations were based was prepared by the Public Employees Retirement Association of Minnesota. That assistance is gratefully acknowledged. The actuarial calculations were completed under our supervision.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

THE SEGAL COMPANY

By:	______________________________	______________________________
	Leslie L. Thompson, FSA, MAAA, EA	*Wally Malles, ASA, MAAA, EA*
	Senior Vice President and Actuary	*Associate Actuary*

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Minnesota Department of Finance (2 copies)

SECTION 1

VALUATION SUMMARY

SECTION 2

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Purpose

This report has been prepared by The Segal Company to present a valuation of the Public Employees Retirement Association of Minnesota as of July 1, 2004. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- Applicable Minnesota Statutes;
- The benefit provisions of the Retirement Association; as administered by the Association;
- The characteristics of covered active participants, inactive vested participants, pensioners and beneficiaries as of July 1, 2004, provided by the Association;
- The assets of the Association as of June 30, 2004, provided by the Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The statutory contribution rate under Chapter 353 is equal to 10.64% of payroll compared to the required contribution rate under Chapter 356 of 12.24% of payroll. Therefore, the contribution deficiency is expected to be 1.60% of payroll or $67,329,585.
- The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of July 1, 2004 is 76.73% compared to 81.27% as of July 1, 2003. This ratio is a measure of funding status, and its history is a measure of funding progress, and is the ratio required to be reported under GASB 25.
- As shown on page 4 of this report, the total unrecognized investment loss as of June 30, 2004 is approximately $337 million. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience.
- There were no changes in plan provisions, actuarial assumptions or actuarial cost methods since the prior valuation. This is the first year that The Segal Company prepared the actuarial valuation of the Association.

Summary of Key Valuation Results

	2004	2003
Contributions (% of payroll) for plan year beginning July 1:		
Statutory – Chapter 353	10.64%	10.65%
Required – Chapter 356	12.24%	11.89%
Sufficiency/(Deficiency)	-1.60%	-1.24%
Funding elements for plan year beginning July 1:		
Normal cost	$328,196,111	$364,657,000
Market value of assets	11,140,745,713	10,240,029,000
Actuarial value of assets (AVA)	11,477,960,861	11,195,902,000
Actuarial accrued liability (AAL)	14,959,464,879	13,776,198,000
Unfunded/(Overfunded) actuarial accrued liability	3,481,504,018	2,580,296,000
Funded ratios:		
Accrued Benefit Funded Ratio	82.25%	86.94%
Current assets (AVA)	$11,477,960,861	$11,195,902,000
Current benefit obligations	13,955,493,543	12,878,071,000
Projected Benefit Funded Ratio	92.63%	93.81%
Current and expected future assets	$16,479,821,271	$15,870,230,000
Current and expected future benefit obligations (Present Value of Benefits)	17,791,571,212	16,916,574,000
GASB 25/27 for plan year beginning July 1:		
Annual required employer contributions	$270,387,510	$299,494,000
Accrued Liability Funded Ratio (AVA/AAL)	76.73%	81.27%
Covered actual payroll	$3,968,034,367	$4,387,649,000
Demographic data for plan year beginning July 1:		
Number of pensioners and beneficiaries	54,780	52,563
Number of vested terminated participants	33,915	32,128
Number of other non-vested terminated participants	102,265	94,340
Number of active participants	138,164	140,066
Total projected payroll	$4,220,502,712	$4,233,217,000
Average projected payroll	30,547	30,223

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, pensioners and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the participant population has changed over the past three valuations can be seen in this chart.

CHART 1

Participant Population: 2002 – 2004

Year Ended June 30	Active Participants	Vested Terminated Participants*	Pensioners and Beneficiaries	Ratio of Non-Actives to Actives
2002	137,817	29,353	50,878	0.58
2003	140,066	32,128	52,563	0.60
2004	138,164	33,915	54,780	0.64

* *Excludes terminated participants due a refund of employee contributions.*

Active Participants
Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 138,164 active participants with an average age of 45.6, average years of service of 9.9 years and average projected payroll of $30,547. The 140,066 active participants in the prior valuation had an average age of 45.2, average service of 9.6 years and average projected payroll of $30,223.

Inactive Participants
In this year's valuation, there were 33,915 participants with a vested right to a deferred or immediate vested benefit.

In addition there were 102,265 other non-vested terminated participants entitled to a return of their employee contributions.

These graphs show a distribution of active participants by age and by years of service.

CHART 2

Distribution of Active Participants by Age as of June 30, 2004

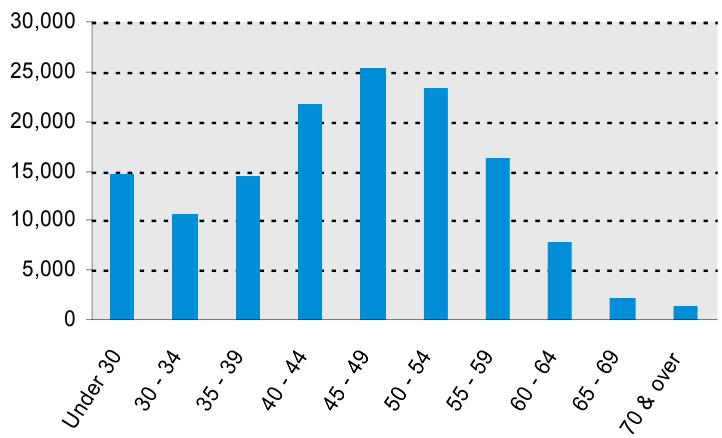
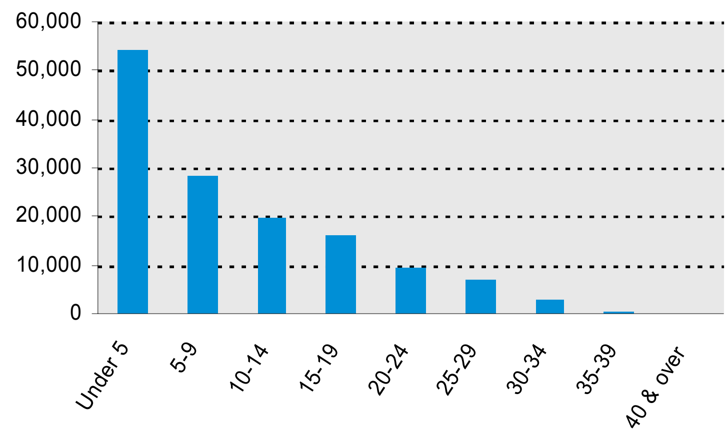


CHART 3

Distribution of Active Participants by Years of Service as of June 30, 2004



Pensioners and Beneficiaries

As of June 30, 2004, 48,230 pensioners (46,470 retired and 1,760 disabled participants) and 6,550 beneficiaries were receiving average monthly benefits of $1,053. For comparison, in the previous valuation, there were 46,172 pensioners (44,532 retired and 1,640 disabled participants) and 6,391 beneficiaries receiving average monthly benefits of $1,018.

These graphs show a distribution of the current pensioners and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Pensioners and Beneficiaries by Type and by Monthly Amount as of June 30, 2004

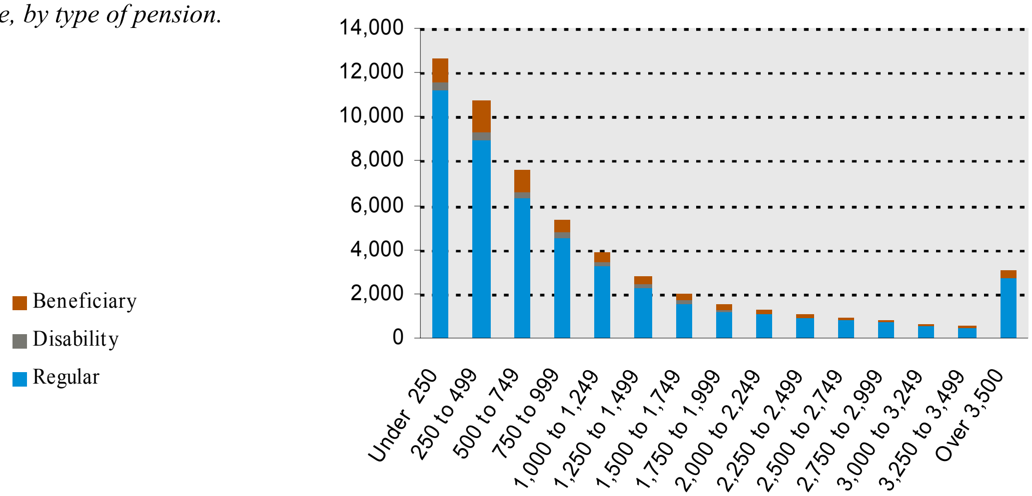
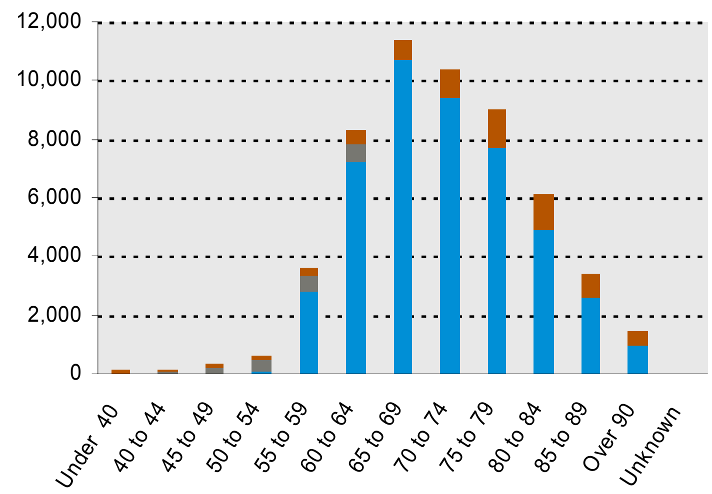


CHART 5

Distribution of Pensioners and Beneficiaries by Type and by Age as of June 30, 2004



B. FINANCIAL INFORMATION

It is desirable to have level and predictable plan costs from one year to the next. For this reason, Minnesota Statutes require an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Both the actuarial value and market value of assets are representations of the Association's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Association's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 6

Determination of Actuarial Value of Assets for Year Ended June 30, 2004

1.	Market value of assets available for benefits			$11,140,745,713
		Original Amount	% Not Recognized	
2.	Calculation of unrecognized return			
	(a) Year ended June 30, 2004	$346,876,315	80%	$277,501,052
	(b) Year ended June 30, 2003	-267,368,000	60%	-160,420,800
	(c) Year ended June 30, 2002	-746,832,000	40%	-298,732,800
	(d) Year ended June 30, 2001	-777,813,000	20%	-155,562,600
	(e) Total unrecognized return			-$337,215,148
3.	Actuarial value of assets ("Current Assets"): (1) – (2e)			$11,477,960,861

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

For the year ended June 30, 2004, the total loss is $746,432,473, including a loss of $449,749,410 from investments and loss of $296,683,063 from all other sources. The net experience variation from individual sources other than investments was 1.98% of the actuarial accrued liability.

This chart provides a summary of the actuarial experience during the past year.

CHART 7

Actuarial Experience for Year Ended June 30, 2004

1.	Net gain/(loss) from investments	-$449,749,410
2.	Net gain/(loss) from other experience	-296,683,063
3.	Net experience gain/(loss): (1) + (2)	-$746,432,473

D. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Section 4, Exhibit III presents a schedule of this information of the Association.

The other critical piece of information regarding the Association's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

GASB requires that the actuarial value of assets be used to determine the funded ratio, as shown in Section 4, Exhibit IV.

EXHIBIT A
Table of Plan Coverage

Category	Year Ended June 30 2004	Year Ended June 30 2003	Change From Prior Year
Active participants in valuation:			
Number	138,164	140,066	-1.4%
Average age	45.6	45.2	N/A
Average service	9.9	9.6	N/A
Total projected payroll	$4,220,502,712	$4,233,217,000	-0.3%
Average projected payroll	30,547	30,223	1.1%
Total active vested participants	102,642	99,473	3.2%
Vested terminated participants	33,915	32,128	5.6%
Retired participants:			
Number in pay status	46,470	44,532	4.4%
Average age	72.0	71.4	N/A
Average monthly benefit	$1,055	$1,018	3.6%
Disabled participants:			
Number in pay status	1,760	1,640	7.3%
Average age	56.4	55.1	N/A
Average monthly benefit	$816	$807	1.1%
Beneficiaries:			
Number in pay status	6,550	6,391	2.5%
Average age	75.6	74.8	N/A
Average monthly benefit	$1,102	$1,077	2.3%
Other non-vested terminated participants	102,265	94,340	8.4%

EXHIBIT B

Participants in Active Service as of June 30, 2004
By Age, Years of Service, and Average Projected Payroll

		Years of Service								
Age	**Total**	**Under 5**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 30	14,733	13,225	1,484	24	- -	- -	- -	- -	- -	- -
	$18,967	$17,396	$32,753	$32,184	- -	- -	- -	- -	- -	- -
30 - 34	10,671	6,445	3,388	806	32	- -	- -	- -	- -	- -
	29,208	23,457	37,802	38,587	$41,116	- -	- -	- -	- -	- -
35 - 39	14,488	7,185	3,879	2,341	1,029	54	- -	- -	- -	- -
	29,658	20,630	34,926	42,664	42,655	$40,995	- -	- -	- -	- -
40 - 44	21,742	8,812	5,506	3,292	2,780	1,247	105	- -	- -	- -
	30,256	19,292	30,143	40,029	46,472	45,050	$44,914	- -	- -	- -
45 - 49	25,323	7,558	5,812	4,584	3,330	2,332	1,603	104	- -	- -
	32,150	19,142	28,462	34,581	44,502	49,555	48,024	$45,933	- -	- -
50 - 54	23,456	4,994	4,173	4,328	3,914	2,373	2,545	1,085	44	- -
	35,744	22,283	28,258	32,626	40,085	48,342	54,047	52,301	$47,833	- -
55 - 59	16,325	3,055	2,268	2,675	3,042	2,066	1,824	1,184	210	1
	36,015	20,110	29,581	32,739	37,604	42,447	50,073	56,088	56,972	$52,675
60 - 64	7,786	1,695	1,142	1,183	1,421	1,016	801	388	124	16
	30,557	15,967	24,169	30,851	34,605	38,176	40,904	47,781	53,528	53,326
65 - 69	2,263	849	445	309	277	156	126	70	25	6
	19,876	9,607	17,940	25,601	28,351	30,951	33,447	35,374	52,851	39,307
70 & over	1,377	623	363	157	109	40	34	38	7	6
	13,428	7,443	13,769	17,571	23,383	27,032	24,013	30,914	32,476	41,372
Total	138,164	54,441	28,460	19,699	15,934	9,284	7,038	2,869	410	29
	$30,547	$19,410	$30,539	$35,433	$41,010	$45,354	$49,499	$52,325	$54,280	$47,930

EXHIBIT C

Reconciliation of Participant Data

	Active Participants	Vested Terminated Participants	Other Non-Vested Terminated Participants	Disableds	Retired Participants	Beneficiaries	Total
Number as of July 1, 2003	140,066	32,128	94,340	1,640	44,532	6,391	319,097
Changes	-1,902	1,787	7,925	120	1,938	159	10,027
Number as of July 1, 2004	138,164	33,915	102,265	1,760	46,470	6,550	329,124

EXHIBIT D

Summary Statement of Income and Expenses on a Market Value Basis for Year Ended June 30, 2004

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. Assets available at beginning of period	$4,245,552,000	$5,994,477,000	$10,240,029,000
B. Operating revenues:			
1. Member contributions	$215,696,700	$0	$215,696,700
2. Employer contributions	225,744,509	0	225,744,509
3. MPRIF income	0	473,880,507	473,880,507
4. Net investment income			
(a) Interest and dividends	$121,030,398	$0	$121,030,398
(b) Net appreciation/(depreciation)	590,778,425	0	590,778,425
(c) Securities lending income	3,282,873	0	3,282,873
(d) Investment expenses	-12,898,754	0	-12,898,754
(e) Net subtotal	$702,192,942	$0	$702,192,942
5. Other	4,437,457	0	4,437,457
6. Total additions	$1,148,071,608	$473,880,507	$1,621,952,115
C. Operating expenses:			
1. Benefits	$31,823,811	$655,300,482	$687,124,293
2. Refunds	22,555,668	0	22,555,668
3. Administrative expenses	8,830,215	0	8,830,215
4. Other	2,725,226	0	2,725,226
5. Total operating expenses	$65,934,920	$655,300,482	$721,235,402
D. Other changes in reserves:			
1. Annuities awarded	-$401,808,317	$401,808,317	$0
2. Mortality gain/(loss)	-93,877,620	93,877,620	0
3. Change in MPRIF assumptions	0	0	0
4. Total other changes	-$495,685,937	$495,685,937	$0
E. Assets available at end of period	$4,832,002,751	$6,308,742,962	$11,140,745,713
F. Determination of current year unrecognized asset return (UAR)			
1. Average balance:			
(a) Non-MPRIF Assets available at BOY: (A)			$4,245,552,000
(b) Non-MPRIF Assets available at EOY:* (E) – (D.2)			4,925,880,371
(c) Average balance: [(F.1.(a)) + (F.1.(b)) – (B.4.(e)) – (B.5)]/2			4,232,400,986
2. Expected return: 8.50% x (F.1.(c))			359,754,084
3. Actual return: (B.4.(e)) + (B.5)			706,630,399
4. Current year UAR: (F.3) – (F.2)			$346,876,315

* *Before adjustment for MPRIF Mortality Gain (Loss).*

EXHIBIT E

Table of Financial Information for Year Ended June 30, 2004

	Market Value	Cost Value
Assets in trust		
Cash, equivalents, short-term securities:	$152,088,931	$152,088,931
Fixed income	1,037,787,103	1,067,754,132
Equity	3,113,860,792	3,131,735,163
Real estate	12,130,173	12,130,173
Equity in MPRIF	6,308,742,962	6,308,742,962
Invested securities lending collateral	1,119,166,385	1,119,166,385
SBI alternative	616,936,227	605,541,261
Other	142,576	142,576
Total assets in trust	$12,360,855,149	$12,397,301,583
Assets receivable	-$85,896,388	-$85,896,388
Total assets	$12,274,958,761	$12,311,405,195
Amounts currently payable		
Securities lending collateral	-$1,119,166,385	-$1,119,166,385
Other	-15,046,663	-15,046,663
Total amounts currently payable	-$1,134,213,048	-$1,134,213,048
Assets available for benefits		
MPRIF reserves	$6,308,742,962	$6,308,742,962
Member reserves	1,603,207,699	1,603,207,699
Other non-MPRIF reserves	3,228,795,052	3,265,241,486
Net Assets at Market/Cost Value	$11,140,745,713	$11,177,192,147
Net Assets at Actuarial Value	$11,477,960,861	$11,477,960,861

EXHIBIT F

Development of the Fund Through June 30, 2004

Year Ended June 30	Employer Contributions	Employee Contributions	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2002	$206,982,000	$191,422,000	$11,288,400,000	$8,680,000	$660,710,000	$11,017,414,000
2003	221,689,000	205,963,000	442,165,000	8,628,000	682,701,000	11,195,902,000
2004	225,744,509	215,696,700	559,127,828	8,830,215	709,679,961	11,477,960,861

* *Net Investment Return on an Actuarial Value of Assets basis and net of investment fees.*

EXHIBIT G

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2004

1. Unfunded/(Overfunded) actuarial accrued liability at beginning of year		$2,580,296,000
2. Normal cost at beginning of year		364,657,000
3. Total contributions		441,441,209
4. Interest		231,559,754
5. Expected unfunded/(overfunded) actuarial accrued liability (1) + (2) – (3) + (4)		$2,735,071,545
6. Changes due to:		
(a) Salary increases	-$20,387,679	
(b) Investments	449,749,410	
(c) MPRIF mortality	93,877,620	
(d) Mortality of other benefit recipients	-6,248,871	
(e) Other experience	229,441,993	
(f) Total changes		746,432,473
7. Unfunded/(Overfunded) actuarial accrued liability at end of year		$3,481,504,018

EXHIBIT H
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Association is calculated including:

(a) Investment return — the rate of investment yield that the Association will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners: The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Association exceeds the assets of the Association. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Association's unfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Association from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

Accrued Benefit Funded Ratio: A current year funded status that measures the percent of benefits covered by Current Assets. This ratio is based on benefits earned to the valuation date (accrued service) and includes future salary increases to retirement. The liability for these benefits is defined as the Current Benefit Obligations. The Accrued Benefit Funded Ratio is calculated as the Actuarial Value of Assets (Current Assets) divided by the Current Benefit Obligations.

Projected Benefit Funded Ratio: A projected funded status that measures contribution sufficiency/deficiency, which is based on a present value of all plan benefits for the lifetime of all plan Members. The liability for these benefits is defined as the Current and Expected Future Benefit Obligations, or Present Value of Benefits. The Current and Expected Future Assets are determined as the sum of the Actuarial Value of Assets (Current Assets), the Present Value of Expected Future Statutory Supplemental Contributions and the Present Value of Future Normal Costs. The Projected Benefit Funded Ratio is calculated as the Current and Expected Future Assets divided by the Current and Expected Future Benefit Obligations. If the ratio is equal to or more than 100%, there is a contribution sufficiency, and if it is less than 100% there is a contribution deficiency.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Pensioners as of the valuation date (including 6,550 beneficiaries in pay status)		54,780
2. Participants inactive during year ended June 30, 2004 with vested rights		33,915
3. Participants active during the year ended June 30, 2004		138,164
Fully vested	102,642	
Not vested	35,522	

The actuarial factors as of the valuation date are as follows:

1. Normal cost		$328,196,111
2. Present value of future benefits		17,791,571,212
3. Present value of future normal costs		2,832,106,333
4. Actuarial accrued liability		14,959,464,879
Retired participants and beneficiaries	$6,612,771,327	
Inactive participants with vested rights	1,294,969,901	
Participants due refunds	51,293,622	
Active participants	7,000,430,029	
5. Actuarial value of assets ($11,140,745,713 at market value)		11,477,960,861
6. Unfunded actuarial accrued liability		$3,481,504,018

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability			
1. Active participants:			
(a) Death benefits	$146,280,030	$52,237,246	$94,042,784
(b) Disability benefits	358,130,627	130,862,478	227,268,149
(c) Withdrawal benefits	798,165,414	508,191,581	289,973,833
(d) Retirement benefits	8,529,960,291	2,140,815,028	6,389,145,263
(e) Total	$9,832,536,362	$2,832,106,333	$7,000,430,029
2. Vested terminated participants	$1,294,969,901	$0	$1,294,969,901
3. Other non-vested terminated participants	51,293,622	0	51,293,622
4. Annuitants in MPRIF	6,308,742,962	0	6,308,742,962
5. Annuitants not in MPRIF	304,028,365	0	304,028,365
6. Total	$17,791,571,212	$2,832,106,333	$14,959,464,879
B. Determination of Unfunded Actuarial Accrued Liability			
1. Actuarial Accrued Liability			$14,959,464,879
2. Actuarial Value of Assets			11,477,960,861
3. Unfunded Actuarial Accrued Liability: (1) – (2)			$3,481,504,018
C. Determination of Supplemental Contribution Rate			
1. Present value of future payrolls through the amortization date of June 30, 2031			$81,877,512,328
2. Supplemental contribution rate: (B.3) / (C.1)			4.25%
D. Determination of GASB Amortization Rate			
1. Present value of future payrolls through the amortization date of June 30, 2031			$73,550,658,213
2. Supplemental contribution rate: (B.3) / (D.1)			4.73%

EXHIBIT II
Actuarial Balance Sheet

A. Current Assets				$11,477,960,861
B. Expected Future Assets				
1. Present Value of Expected Future Statutory Supplemental Contributions				$2,169,754,077
2. Present Value of Future Normal Costs				2,832,106,333
3. Total Expected Future Assets				$5,001,860,410
C. Total Current and Expected Future Assets				$16,479,821,271
D. Current Benefit Obligations		**Non-Vested**	**Vested**	**Total**
1. Benefit recipients:				
(a) Retirement annuities		$0	$5,668,801,524	$5,668,801,524
(b) Disability benefits		0	209,100,479	209,100,479
(c) Beneficiaries		0	734,869,324	734,869,324
2. Vested terminated participants		0	1,294,969,901	1,294,969,901
3. Other non-vested terminated participants		0	51,293,622	51,293,622
4. Active participants		67,570,706	5,928,887,987	5,996,458,693
5. Total Current Benefit Obligations		$67,570,706	$13,887,922,837	$13,955,493,543
E. Expected Future Benefit Obligations				3,836,077,669
F. Total Current and Expected Future Benefit Obligations - Present Value of Benefits: (D.5 + E)				$17,791,571,212
G. Current Unfunded Actuarial Liability (D.5 - A)				$2,477,532,682
H. Current and Future Unfunded Actuarial Liability (F - C)				$1,311,749,941

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Year Ended June 30	Actuarially Required Contribution Rate[(1)] (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Employer Contributions [(a) x (b)] – (c) = (d)	Actual Employer Contributions[(2)] (e)	Percentage Contributed (e) / (d)
1991	10.04%	$2,124,409,000	$94,413,000	$118,878,000	$101,907,000	85.72%
1992	9.44%	2,299,532,000	101,655,000	115,421,000	109,203,000	94.61%
1993	9.95%	2,403,558,000	106,359,000	132,795,000	113,183,000	85.23%
1994	9.58%	2,557,522,000	112,940,000	132,071,000	119,390,000	90.40%
1995	9.76%	2,679,069,000	115,986,000	145,491,000	123,984,000	85.22%
1996	9.61%	2,814,126,000	121,525,000	148,913,000	129,738,000	87.12%
1997	9.75%	2,979,260,000	128,234,000	162,244,000	136,686,000	84.25%
1998	9.62%[(3)]	3,271,737,000	140,385,000	174,356,000	151,499,000	86.89%
1999	9.63%[(3)]	3,302,808,000	158,475,000	159,585,000	173,370,000	108.64%
2000	9.22%[(3)]	3,437,954,000	171,073,000	145,906,000	186,637,000	127.92%
2001	11.84%[(3), (4)]	3,466,587,000	173,380,000	237,064,000	188,208,000	79.39%
2002	11.85%[(3)]	3,809,864,000	191,422,000	260,047,000	206,982,000	79.59%
2003	11.52%[(3), (5)]	4,387,649,000	205,963,000	299,494,000	221,689,000	74.02%
2004	12.25%[(3)]	3,968,034,367	215,696,700	270,387,510	225,744,509	83.49%
2005	12.72%[(3)]					

(1) *Actuarially Required Contributions determined for years ended 1995, 1996, 1997 did not comply with the parameters of GASB Statement No. 25 since a one percent growth in covered population is assumed in the amortization calculation.*

(2) *Includes contributions from other sources (if applicable).*

(3) *Actuarially Required Contributions calculated according to parameters of GASB 25 with no assumption for growth of covered population.*

(4) *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Asset Valuation Method is 11.41%.*

(5) *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 11.86%.*

EXHIBIT IV

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
07/01/1991	$3,570,304,000	$4,988,671,000	$1,418,367,000	71.57%	$2,124,409,000	66.77%
07/01/1992	3,978,110,000	5,439,953,000	1,461,843,000	73.13%	2,299,532,000	63.57%
07/01/1993	4,374,459,000	5,784,318,000	1,409,859,000	75.63%	2,403,558,000	58.66%
07/01/1994	4,747,128,000	6,223,622,000	1,476,494,000	76.28%	2,557,522,000	57.73%
07/01/1995	5,138,461,000	6,622,069,000	1,483,608,000	77.60%	2,679,069,000	55.38%
07/01/1996	5,786,398,000	7,270,073,000	1,483,675,000	79.59%	2,814,126,000	52.72%
07/01/1997	6,658,410,000	8,049,666,000	1,391,256,000	82.72%	2,979,260,000	46.70%
07/01/1998	7,636,668,000	8,769,303,000	1,132,635,000	87.08%	3,271,737,000	34.62%
07/01/1999	8,489,177,000	9,443,678,000	954,501,000	89.89%	3,302,808,000	28.90%
07/01/2000	9,609,367,000	11,133,682,000	1,524,315,000	86.31%	3,437,954,000	44.34%
07/01/2001	10,527,270,000	12,105,337,000	1,578,067,000	86.96%	3,466,587,000	45.52%
07/01/2002	11,017,414,000	12,958,105,000	1,940,691,000	85.02%	3,809,864,000	50.94%
07/01/2003	11,195,902,000	13,776,198,000	2,580,296,000	81.27%	4,387,649,000	58.81%
07/01/2004	11,477,960,861	14,959,464,879	3,481,504,018	76.73%	3,968,034,367	87.74%

EXHIBIT V

Determination of Contribution Sufficiency - Total

	July 1, 2004	
A. Statutory Contributions – Chapter 353	**Percent of Payroll**	**Dollar Amount**
1. Employee Contributions	5.10%	$215,425,739
2. Employer Contributions	5.54%	233,675,208
3. Total	10.64%	$449,100,947
B. Required Contributions – Chapter 356		
1. Normal Cost		
(a) Retirement Benefits	6.05%	$255,263,959
(b) Disability Benefits	0.34%	14,471,787
(c) Survivors	0.14%	5,906,224
(d) Deferred Retirement Benefits	1.25%	52,554,141
(e) Total	7.78%	$328,196,111
2. Amortization of Supplemental Contribution UAAL	4.25%	179,371,365
3. Allowance for Expenses	0.21%	8,863,056
4. Total	12.24%	$516,430,532
C. Contribution Sufficiency (Deficiency) (A.3 – B.4)	-1.60%	-$67,329,585
D. Projected annual payroll for fiscal year beginning on the valuation date		$4,220,502,712

EXHIBIT VI

Determination of Contribution Sufficiency - Basic

	July 1, 2004	
A. Statutory Contributions – Chapter 353	**Percent of Payroll**	**Dollar Amount**
1. Employee Contributions	9.10%	$409,729
2. Employer Contributions	11.78%	530,397
3. Total	20.88%	$940,126
B. Required Contributions – Chapter 356		
1. Normal Cost		
(a) Retirement Benefits	7.67%	$345,369
(b) Disability Benefits	0.37%	16,632
(c) Survivors	0.17%	7,672
(d) Deferred Retirement Benefits	2.73%	123,042
(e) Total	10.94%	$492,715
C. Projected annual payroll for fiscal year beginning on the valuation date		$4,502,521

EXHIBIT VII

Determination of Contribution Sufficiency - Coordinated

		July 1, 2004	
A.	**Statutory Contributions – Chapter 353**	**Percent of Payroll**	**Dollar Amount**
1.	Employee Contributions	5.10%	$215,016,010
2.	Employer Contributions	5.53%	233,144,811
3.	Total	10.63%	$448,160,821
B.	**Required Contributions – Chapter 356**		
1.	Normal Cost		
	(a) Retirement Benefits	6.05%	$254,918,590
	(b) Disability Benefits	0.34%	14,455,155
	(c) Survivors	0.14%	5,898,552
	(d) Deferred Retirement Benefits	1.24%	52,431,099
	(e) Total	7.77%	$327,703,396
C.	**Projected annual payroll for fiscal year beginning on the valuation date**		$4,216,000,191

EXHIBIT VIII

Supplementary Information Required by the GASB

Valuation date	July 1, 2004
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll
Remaining amortization period	27 years remaining as of July 1, 2004
Asset valuation method	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 and 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).
Actuarial assumptions:	
Investment rate of return:	
Pre-retirement	8.50% per annum
Post-retirement	8.50% per annum (payment of earnings on retired reserves in excess of 6.00% accounted for by 6.00% post-retirement assumption)
Plan membership:	
Pensioners and beneficiaries receiving benefits	54,780
Terminated participants entitled to, but not yet receiving benefits	33,915
Other non-vested terminated participants	102,265
Active participants	138,164
Total	329,124

EXHIBIT IX

Actuarial Assumptions and Actuarial Cost Method

Net Investment Return:

Pre-Retirement:	8.50% per annum	
Post-Retirement:	8.50% per annum	

Benefit Increases After Retirement: Payment of earnings on retired reserves in excess of 6.00% accounted for by 6.00% post-retirement assumption.

Salary Increases: Reported salary for prior fiscal year, with new hires annualized, increased to current fiscal year and annually for each future year according to the ultimate rate table. During a ten year select period, 0.30% x (10-T) where T is completed years of service is added to the ultimate rate.

Mortality Rates:

Healthy Pre-Retirement:	Male:	1983 Group Annuity Mortality Table for males set back eight years.
	Female:	1983 Group Annuity Mortality Table for females set back seven years.
Healthy Post-Retirement:	Male:	1983 Group Annuity Mortality Table for males set back one year.
	Female:	1983 Group Annuity Mortality Table for females set back one year.
Disabled:	Male:	1965 RRB through age 54. For ages 55 to 64, graded rates between 1965 RRB and the healthy post-retirement mortality table. For ages 65 and later, the healthy post-retirement mortality table.
	Female:	1965 RRB through age 54. For ages 55 to 64, graded rates between 1965 RRB and the healthy post-retirement mortality table. For ages 65 and later, the healthy post-retirement mortality table.

Retirement Rates: Graded rates beginning at age 55 as shown in below. Members who have attained the highest assumed retirement age are assumed to retire in one year.

	Retirement	
Age	Rule of 90 Eligible	Other
55	40.00%	7.00%
56	40.00	7.00
57	40.00	7.00
58	40.00	7.00
59	40.00	9.00
60	40.00	9.00
61	40.00	20.00
62	40.00	20.00
63	40.00	20.00
64	40.00	20.00
65	40.00	40.00
66	25.00	25.00
67	25.00	25.00
68	25.00	25.00
69	25.00	25.00
70	25.00	25.00
71	100.00	100.00

Withdrawal Rates:	Select and ultimate rates are based on recent plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are as follows: First year: 40.00% Second year: 15.00% Third year: 10.00%
Disability Rates:	Rates as shown in the rate table.
Allowance for Combined Service Annuity:	Liabilities for active Members are increased by 0.80% and liabilities for former Members not currently receiving payments are increased by 60.00% to account for the effect of some participants having eligibility for a combined service annuity.
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Percent Married:	85% of male Members and 65% of female Members are assumed to be married.
Age of Spouse:	Females are assumed to be four years younger than males.
Eligible Children:	Assume Members have no children.
Special Consideration:	Married Members are assumed to elect subsidized joint and survivor form of annuity as follows:

	Males	Females
25% J & S option	10.00%	5.00%
50% J & S option	20.00%	5.00%
75% J & S option	10.00%	5.00%
100% J & S option	30.00%	15.00%

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are expressed as a level percentage of payroll, with Normal Cost determined as if the current benefit accrual rate had always been in effect.
Asset Valuation Method:	On and after July 1, 2000, 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 and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.00% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Summary of Rates: Shown for selected ages:

	Rate(%)						
	Death		Withdrawal		Disability		Ultimate Rate of Salary
Age	Male	Female	Male	Female	Male	Female	Increases
20	0.03%	0.01%	8.40%	8.40%	0.01%	0.01%	6.40%
25	0.03	0.02	6.90	6.90	0.01	0.01	6.40
30	0.04	0.02	5.40	5.40	0.02	0.02	6.20
35	0.05	0.03	3.90	4.20	0.05	0.04	6.00
40	0.07	0.04	3.00	3.50	0.09	0.06	5.80
45	0.10	0.06	2.50	3.00	0.14	0.09	5.60
50	0.15	0.08	2.00	2.50	0.23	0.16	5.40
55	0.28	0.14	0.00	0.00	0.49	0.26	5.20
60	0.48	0.21	0.00	0.00	0.82	0.46	5.00
65	0.71	0.35	0.00	0.00	0.00	0.00	5.00
70	1.11	0.58	0.00	0.00	0.00	0.00	5.00

Changes in Actuarial Assumptions and Actuarial Cost Methods: There have been no changes made to the actuarial assumptions or actuarial cost methods since the prior valuation.

EXHIBIT X

Summary of Plan Provisions (Basic)

This summary of provisions reflects the interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with Minnesota Statutes.

Plan Year:		July 1 through June 30
Eligibility:		A public employee who is not covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23.
Contributions:		
	Member:	8.75% of salary.
	Employer:	11.43% of total salary. Additional 2.68% is repealed at full funding.
Allowable Service:		Service during which Member contributions were deducted. May also include certain leaves of absence and military service. Does not include pro-rated service credit for part-time employment for post December 31, 2001 hires.
Salary:		Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leave and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average Salary:		Average of the five highest successive years of annual salary. Average salary is based on all Allowable Service if less than five years.

Retirement:

<u>*Normal Retirement Benefit*</u>:	
Age/Service Requirement:	Age 65 and three years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount:	The greater of (a) or (b): (a) 2.20% of Average Salary for each of the first 10 years of Allowable Service and 2.70% of Average Salary for each subsequent year; (b) 2.70% of Average Salary for each year of Allowable Service.
<u>*Early Retirement Benefit*</u>:	
Age/Service Requirement:	(a) Age 55 and three years of Allowable Service. (b) Any age with 30 years of Allowable Service. (c) Rule of 90: age plus Allowable Service totals 90.
Amount:	The greater of (a) or (b): (a) 2.20% of Average Salary for each of the first 10 years of Allowable Service and 2.70% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable service totals 90; (b) 2.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.
Form of Payment:	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 25%, 50% 75% or 100% joint and survivor with bounce back feature without additional reduction (option canceled if Member is pre-deceased by beneficiary).
Benefit Increases:	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full

months will receive a partial increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of $25 times each full year of Allowable Service or the difference between $400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF. Effective January 1, 2002, annual lump sum payment is divided by 12 and paid as a monthly life annuity in the annuity form elected.

Disability:

Disability Benefit:

Age/Service Requirement: Total and permanent disability before normal retirement age with three years of Allowable Service.

Amount: Normal Retirement Benefit based on Allowable Service and average salary at disability without reduction for commencement before normal retirement age. Supplemental benefit of $25 per month payable to the later of the normal retirement age or the five-year anniversary at commencement of disability. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater.

If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect at the time the Member became disabled, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

Payments stop if disability ceases. If death occurs prior to age 65 or within five years of disability, the surviving spouse can receive a refund or a survivor benefit. Dependent children are entitled to dependent child benefits subject to the 70.00%

	family maximum. Payments change to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.
Form of Payment:	Same as for retirement.
Benefit Increases:	Adjusted by PERA to provide same increase as MPRIF.
Retirement After Disability:	
Age/Service Requirement:	Normal retirement age.
Amount:	Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
Benefit Increases:	Same as for retirement.

Death:

Surviving Spouse Benefit:	
Age/Service Requirement:	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
Amount:	50.00% of salary averaged over last six months. Family benefit is maximum of 70.00% and minimum of 50.00% of average salary. Benefit paid until spouse's death but no payments while spouse is remarried prior to July 1, 1991. If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. Surviving spouse optional annuity may be elected in lieu of this benefit.
Surviving Dependent Child Benefit:	
Age/Service Requirement:	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
Amount:	10.00% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 50.00% of salary and maximum of 70.00% of average salary. Benefits paid until child marries, dies, or attains age 18 (age 22 if full-time student).

	If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Surviving Spouse Optional Annuity:	
Age/Service Requirement:	Member or former Member who dies before retirement benefits commence and other survivor annuity is waived by spouse.
Amount:	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer.
	If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit Increases:	Adjusted by PERA to provide same increase as MPRIF.
Refund of Contributions:	
Age/Service Requirement:	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount:	The excess of the Member's contributions with 6.00% interest over any disability or survivor benefits paid.

Termination:

<u>*Refund of Contributions*</u>*:*

Age/Service Requirement:	Termination of public service.
Amount:	Member's contributions with 5.00% interest compounded annually if termination occurred before May 16, 1989 and 6.00% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if three or more years of Allowable Service.

<u>*Deferred Benefit*</u>*:*

Age/Service Requirement:	Three years of Allowable Service.
Amount:	Benefit computed under law in effect at termination and increased by the following percentage compounded annually: (a) 0.00% before July 1, 1971; (b) 5.00% from July 1, 1971 to January 1, 1981; (c) 3.00% thereafter until January 1 of the year following attainment of age 55; and (d) 5.00% thereafter until the annuity begins. Members active with a public employer the day prior to the privatization of the employer become vested immediately and receive augmentation at the rate of 5.50% compounded annually through the year the Member turns age 55 and 7.50% thereafter until the annuity begins. Amount is payable at a normal or early retirement. If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

Changes in Plan Provisions: There have been no changes in plan provisions since the prior valuation.

EXHIBIT XI
Summary of Plan Provisions (Coordinated)

This summary of provisions reflects the interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with Minnesota Statutes.

Plan Year:	July 1 through June 30
Eligibility*:*	A public employee who is covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23. City managers and persons holding elective office may choose to become Members.
Contributions:	
Member:	4.75% of total salary.
Employer:	5.18% of total salary. Additional 0.43% is repealed at full funding.
Allowable Service:	Service during which Member contributions were deducted. May also include certain leaves of absence and military service. Does not include pro-rated service credit for part-time employment for post December 31, 2001 hires.
Salary:	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leave and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average Salary*:*	Average of the five highest successive years of salary. Average salary is based on all Allowable Service if less than five years.

Retirement:

Normal Retirement Benefit:	
Age/Service Requirement:	First hired before July 1, 1989: (a) Age 65 and three years of Allowable Service. (b) Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount:	The greater of (a) or (b): (a) 1.20% of Average Salary for each of the first 10 years of Allowable Service and 1.70% of Average Salary for each subsequent year; (b) 1.70% of Average Salary for each year of Allowable Service.
Age/Service Requirement:	First hired after June 30, 1989: (a) The greater of age 65 or the age eligible for full Social Security retirement benefits but no later than age 66 and three years of Allowable Service. (b) Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.
Amount:	1.70% of Average Salary for each year of Allowable Service.
Early Retirement Benefit:	
Age/Service Requirement:	First hired before July 1, 1989: (a) Age 55 and three years of Allowable Service. (b) Any age with 30 years of Allowable Service. (c) Rule of 90: age plus Allowable Service totals 90. First hired after June 30, 1989: (a) Age 55 with three years of Allowable Service.
Amount:	First hired before July 1, 1989: The greater of (a) or (b): (a) 1.20% of Average Salary for each of the first 10 years of Allowable Service and 1.70% of Average Salary for each subsequent year with reduction of 0.25% for

each month the Member is under age 65 at time of retirement or age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90;

(b) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.

First hired after June 30, 1989:

(a) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to the age eligible for full Social Security retirement benefits at 3.00% per year and actuarial reduction for each month the Member is under the Social Security retirement age, but no later than age 66.

Form of Payment: Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

25%, 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option canceled if Member is pre-deceased by beneficiary).

Benefit Increases: Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is $25 times each full year of Allowable Service. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

Disability:

<u>*Disability Benefit*</u>*:*	
Age/Service Requirement:	Total and permanent disability before normal retirement age with three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and average salary at disability without reduction for commencement before normal retirement age. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater. If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. Payments stop if disability ceases or death occurs. Payments change to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.
Form of Payment:	Same as for retirement.
Benefit Increases:	Adjusted by PERA to provide same increase as MPRIF.
<u>*Retirement After Disability*</u>*:*	
Age/Service Requirement:	Normal retirement age.
Amount:	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarial equivalent optional annuity.
Benefit Increases:	Same as for retirement.

Death:	
Surviving Spouse Optional Annuity:	
Age/Service Requirement:	Member or former Member who dies before retirement or disability benefits commence.
Amount:	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer. If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit Increases:	Adjusted by PERA to provide same increase as MPRIF.
Refund of Member's Contributions:	
Age/Service Requirement:	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount:	The excess of the Member's contributions with 6.00% interest over any disability or survivor benefits paid.
Termination:	
Refund of Contributions:	
Age/Service Requirement:	Termination of public service.
Amount:	Member's contributions with 5.00% interest compounded annually if termination occurred before May 16, 1989 and 6.00% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if three or more years of Allowable Service.
Deferred Benefit:	
Age/Service Requirement:	Three years of Allowable Service.

Amount:	Benefit computed under law in effect at termination and increased by the following percentage compounded annually: (a) 0.00% before July 1, 1971; (b) 5.00% from July 1, 1971 to January 1, 1981; (c) 3.00% thereafter until January 1 of the year following attainment of age 55; and (d) 5.00% thereafter until the annuity begins. Members active with a public employers the day prior to the privatization of the employer become vested immediately and receive augmentation at the rate of 5.50% compounded annually through the year the member turns age 55 and 7.50% thereafter until the annuity begins. Amount is payable at normal or early retirement. If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Changes in Plan Provisions:	There have been no changes in plan provisions since the prior valuation.