

**HOUSTON MUNICIPAL EMPLOYEES PENSION SYSTEM**  
**ACTUARIAL VALUATION REPORT**  
**FOR THE YEAR BEGINNING JULY 1, 2010**

February 9, 2011

Board of Trustees  
Houston Municipal Employees Pension System  
1111 Bagby  
Suite 2450  
Houston, TX 77002-2555

**Subject: Actuarial Valuation as of July 1, 2010**

Dear Members of the Board:

This report describes the current actuarial condition of the Houston Municipal Employees Pension System (HMEPS), determines the calculated employer contribution rate, and analyzes changes in this contribution rate. Valuations are prepared annually, as of July 1, the first day of the HMEPS plan year.

Under the HMEPS statute, the employer contribution rate is determined actuarially, based on the Board's funding policy and HMEPS' governing law. The contribution rate determined by a given actuarial valuation and implemented by the Board becomes effective twelve months after the valuation date, i.e., the rates determined by this July 1, 2010 actuarial valuation will be used by the Board when determining the employer contribution rate for the year beginning July 1, 2011 and ending June 30, 2012.

Under the 2004 Meet & Confer Agreement between the Board and the City of Houston, a three-year funding schedule was implemented consisting of a \$63 million employer contribution and \$300 million pension obligation note for FY 2005, a \$69 million employer contribution for FY 2006 and a \$72 million employer contribution for FY 2007. The funding schedule was developed to substantially increase the funded level of the plan and maintain adequate funding levels over the three-year period ending June 30, 2007.

A Fourth Amendment to the Meet & Confer Agreement between the Board and the City of Houston was adopted in 2007 (Fourth Amendment). As part of this amendment, another funding schedule was implemented consisting of a \$75 million employer contribution for FY 2008, a \$78.5 million employer contribution for FY 2009, a \$83.5 million employer contribution for FY 2010, and a \$88.5 million employer contribution for FY 2011.

The employer contribution amounts for FY 2010 and FY 2011 were not set by actuarial valuations. Therefore, the calculated contribution rates from those valuations are not being contributed. Instead, employer contributions of \$83.5 million for FY 2010 and \$88.5 million for FY 2011 are to be made under the terms of the Fourth Amendment.

The calculated required employer contribution rate for FY2012 is 22.36% of payroll. Using an estimated payroll of \$595.2 million for FY2012 projects an estimated calculated employer contribution for FY2012 of \$133.1 million. This compares to the \$88.5 million employer contribution that will be paid under the terms of the Fourth Amendment for FY2011, or an increase of \$44.6 million.

### **Financing objectives and funding policy**

The amortization period is set by statute, and was modified under the Meet and Confer. The contribution rate and liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The normal cost rate is determined as a percent of pay. The amortization rate is determined as a level percent of pay. It is the amount required to amortize the unfunded actuarial accrued liability over a closed period (29 years as of July 1, 2010). The amortization rate is adjusted for the one-year deferral in contribution rates.

### **Progress toward realization of financing objectives**

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The funded ratio as of July 1, 2010 is 62.6%. This is a decrease from the 66.2% funded ratio from the prior year valuation.

The calculated employer contribution rate for FY 2012 is 22.36%. This rate is more than the 20.07% rated calculated in the 2009 valuation. This increase is mostly due to continued recognition of the deferred investment losses from FY2009 and the actual contributions being less than actuarially recommended. Please see Table 6 for a detailed analysis of the change in the calculated employer contribution rate from the prior year to this year.

Like most large public pension plans, HMEPS was significantly impacted by the substantial decline in the investment markets during FY 2009 and most of the losses are still being deferred due to the smoothing methodology used in the valuation. In the absence of a significant recovery in the investment markets, the contribution rate needed to amortize the UAAL will increase over the next few valuation cycles.

### **Benefit provisions**

The benefit provisions reflected in this valuation are those which were in effect on July 1, 2010. The Fourth Amendment between the City and the Board changed the benefit provisions substantially, effective January 1, 2008. The benefits for employees hired prior to January 1, 2008 were not modified, but the benefits for employees newly hired on or after January 1, 2008 were modified substantially, including the elimination of member contributions.

The benefit provisions are summarized in Appendix B.

### **Assumptions and methods**

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the plan's actuary. The assumptions used in this valuation were adopted by the Board based on the recommendations from GRS during the Experience Study following the July 1, 2009 actuarial valuation and differ from the assumptions used in the prior valuation. The changes in the assumptions were minor. These are detailed on page 7 of this report.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations are intended to provide information for rational decision making.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

All assumptions and methods are described in Appendix A.

### **Data**

Member data for retired, active and inactive members was supplied as of July 1, 2010 by the HMEPS staff. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data.

Asset information as of July 1, 2010 was taken from the Comprehensive Annual Financial Report for the Year Ended June 30, 2010.

### **Plan Experience**

As part of each valuation, we examine the System's experience relative to the assumptions. The aggregate results of these analyses are disclosed in Tables 5 & 6. This past fiscal year the System had a total liability loss of approximately \$24.4 million. The loss can be traced to larger than expected salary increases and less turnover than expected. Relative to the total liabilities of the System we do not consider this aggregate loss significant, especially the termination loss which is due to fewer employment opportunities elsewhere due to the overall weak economy.

We were asked to determine if an unanticipated actuarial cost occurred in the administration of the Deferred Retirement Option Plan (DROP). It is our opinion that the administration of the (DROP) had no material unanticipated actuarial costs during the prior fiscal year.

### **Certification**

All of the tables contained in this actuarial valuation report and in the actuarial section of the HMEPS CAFR were prepared by Gabriel, Roeder, Smith & Company. We certify that the information presented herein is accurate and fairly portrays the actuarial position of HMEPS as of July 1, 2010.

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries and consultants. Mr. Newton is an Enrolled Actuary and also a Member of the American Academy of Actuaries, and meets the Qualification Standards of the American Academy of Actuaries. Both of the undersigned are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Company



Joseph P. Newton, FSA, EA, MAAA  
Senior Consultant



Lewis Ward  
Consultant

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**Executive Summary**

Item	July 1, 2010	July 1, 2009
<b>Membership</b> <ul style="list-style-type: none"> <li>• Number of: <ul style="list-style-type: none"> <li>- Active members</li> <li>- Retirees and beneficiaries</li> <li>- Inactive members</li> <li>- Total</li> </ul> </li> <li>• Annualized Payroll supplied by HMEPS</li> </ul>	         	         
<b>Calculated Contribution rates</b> <ul style="list-style-type: none"> <li>• Employer</li> </ul>	         	         
<b>Assets</b> <ul style="list-style-type: none"> <li>• Market value</li> <li>• Actuarial value</li> <li>• Estimation of return on market value</li> <li>• Estimation of return on actuarial value</li> <li>• Employer contribution</li> <li>• Member contribution</li> <li>• Ratio of actuarial value to market value</li> </ul>	         	         
<b>Actuarial Information</b> <ul style="list-style-type: none"> <li>• Employer normal cost %</li> <li>• Unfunded actuarial accrued liability (UAAL)</li> <li>• Amortization rate</li> <li>• Funding period</li> <li>• GASB funded ratio</li> </ul>	         	         
<b>Projected employer contribution based on calculated rate</b> <ul style="list-style-type: none"> <li>• Fiscal year ending June 30,</li> <li>• Projected payroll (millions)</li> <li>• Projected employer contribution (millions)</li> <li>(actual contribution rate set by Meet &amp; Confer)</li> </ul>	         	         

Note: Dollar amounts in \$000, unless otherwise noted

<sup>1</sup> Employee contribution rate is 5%. Members newly hired after January 1, 2008 are noncontributory.

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## Contribution Requirements

- The Executive Summary shows the new, calculated contribution rate
- Rates shown on the Executive Summary are calculated rates for the twelve-month period beginning one year after the valuation date, based on current board policy
- Table 6 reconciles the calculated contribution rate from the prior valuation to the current valuation
- No changes to the benefit provisions were reflected in this valuation
- There were changes to the actuarial assumptions, summarized on Page 7. The changes increased the UAAL by \$9 million and the calculated contribution rate by 0.09%.
- Amortization payment is based on
  - 29-year closed funding period beginning July 1, 2010
  - Contributions increase as level percentage of pay
  - Total payroll increases 3.00% per year
  - No future growth in the number of active members is taken into account
- The Plan's funded ratio decreased from the prior year and the Plan's contribution rate increased from the prior year primarily due to the loss on the actuarial value of assets
  - Analysis of the change in contribution rates is shown on Table 6
  - The actuarial value of assets is greater than the market value of assets creating a deferred net asset loss (approximately \$445 million). The recognition of these deferred losses will increase the required contribution rate over the next several valuations if no offsetting asset gains occur. The impact of this recognition is reflected in Table 7.

## Calculation of Contribution Rates

The funds available to pay benefits come from two sources, contributions and investment income on those contributions (the majority of the funds available to pay benefits come from investment income). HMEPS receives contributions from two sources, employer contributions which are determined as a percent of pay, and in some cases by member contributions. As shown in Table 2, the employer contribution rate has two components:

- The normal cost percentage (NC%)
- The amortization percentage (UAAL%)

The NC% is the theoretical amount which would be required to pay the members' benefits, based on the plan provisions for new employees, if this amount had been contributed from each member's entry date and if the fund's experience exactly followed the actuarial assumptions. This is the amount it should cost to provide the benefits for an average new member. The NC% is shown in Table 4.

The actuarial accrued liability (AAL) is the difference between (i) the actuarial present value of all future benefits for all current participants of the fund, including active, inactive and retired members, and (ii) the actuarial present value of future normal costs. Thus the AAL represents the liability associated with past years. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and the actuarial value of assets (AVA). It is the shortfall/excess between the liability associated with prior years (the AAL) and the assets actually accumulated (the AVA). This shortfall/excess can arise from several sources, including actuarial gains and losses which are caused by differences between actual experience and the plan's assumptions, changes to the plan's actuarial assumptions, and amendments to the benefit provisions.

The UAAL% is the amount required to fund this difference. It is the amount, expressed as a level percentage of payroll, necessary to amortize the UAAL. The Meet & Confer Agreement has specified that this amortization should be over a period of 29 years beginning July 1, 2010. Item 11a of Table 2 shows the UAAL%.

The calculated rate is used in determining the contributions necessary to meet the funding policy for the twelve-month period beginning July 1, 2011. Based on projected payroll, the FY 2012 employer contribution is estimated to be \$133.1 million.

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## Financial Data and Experience

As of July 1, 2010, HMEPS has a total market value of about \$1.83 billion. Financial information was gathered from the 2010 HMEPS Comprehensive Annual Financial Report.

This report includes a number of exhibits related to plan assets. Table 8 shows how the total market value is distributed among the various classes of investments. Current investment policy allocates 40% of invested assets to equities, 20% of invested assets to fixed income, and 40% of invested assets to alternative investments and real assets.

Table 9 shows a reconciliation of the market values between the beginning and end of FY2010.

The Comprehensive Annual Financial Report states the gross time-weighted return for FY2010 was 12.24%. After adjusting for expenses, the net return was 11.84%.

In determining the contribution rates and funded status of the System, an actuarial value of assets (AVA) is used, rather than the market value of assets. The method used to compute the AVA takes the difference between actual earnings and expected earnings (based on the assumed 8.5% investment return rate) each year, and recognizes the difference over five years, at 20% per year. This “smoothing method” is intended to help reduce the volatility of the contribution rates from year to year.

The development of the AVA is shown on Table 10. The AVA is \$2.27 billion. The AVA is 124.3% of the MVA, compared to 132.0% last year.

In addition to the market return, Table 11 also shows the return on the actuarial value of assets for HMEPS. For FY2010, this return was 3.54%. Because this is less than the assumed 8.5% investment return, an actuarial loss occurred increasing the unfunded actuarial accrued liabilities of the plan. Table 13 shows a summary of market and actuarial return rates in recent years.

### Member Data

Member data as of July 1, 2010 was supplied electronically by HMEPS staff. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall.

Table 19 shows the number of members by category (active, inactive, retired, etc.). Tables 20(a-c) show active member statistics by Group. Tables 17 and 18 show summaries of certain historical data, including membership statistics.

The number of active members decreased from 13,333 to 12,913, a 3.2 % decrease. This was the first decrease in membership in five years.

The total payroll shown on the statistical tables is the amount that was supplied by HMEPS, annualized if necessary. For the cost calculations, the pays were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

Total active member payroll increased 2.2% last year, compared with a 11.4% increase the prior year. The average salary increased 5.5%, therefore an overall increase in the underlying salaries was offset by the decrease in membership.

An overall uptrend in payroll is significant because the methodology used in the valuation to amortize the unfunded liability assumes a growing payroll into the future. If the payroll does not grow at the assumed 3% a year on average, then the amortization payments will be understated and the funding position of the plan will not strengthen over time.

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## Benefit Provisions

Appendix B of our Report includes a summary of the benefit provisions for HMEPS. The following is summary of the benefit provisions for members hired after January 1, 2008 (Group D).

- *Normal Retirement Eligibility*
  - Age 62 with 5 years of service
- *Normal Retirement Benefit*
  - 1.80% of FAS for each of the first 25 years of Credited Service, and 1.00% of FAS for each year of Credited Service over 25. Maximum benefit is 90% of FAS for all future retirees.
- *Normal Form of Payment*
  - Life only to the retiree. Group D members may elect other options based on actuarial factors.
- *Employee Contributions* are not required
- *Post-retirement Cost of Living Adjustments (COLA)*
  - None. Group D members may elect an actuarially equivalent optional form of payment with a COLA feature.

This valuation reflects all benefits offered to members. There are no ancillary benefits that might be deemed a liability if continued beyond the availability of funding by the current funding source. There were no changes in benefit provisions since the prior valuation.

### Actuarial Methods and Assumptions

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age Normal actuarial cost method. The assumed investment return rate is 8.50%. The Board adopted the actuarial assumptions used in this valuation in connection with the actuarial experience study performed by GRS in 2010. These assumptions are new with the July 1, 2010 valuation with a summary of the changes listed below:

- Change in the asset valuation method to the 20% adjustment method
- Increase in the service-based salary scale rates
- Improvement in the mortality assumption
- Slightly increased the termination rates
- Slightly reduced retirement rates
- Reduced the disability expectations

The following is a summary of selected valuation results from the July 1, 2009 valuation based on the old and new assumptions:

Item (1)	Prior Assumptions (2)	New Assumptions (3)
Total Normal Cost %	5.80%	5.86%
Unfunded Actuarial Accrued Liability (\$ in Millions)	\$1,167	\$1,176
Funded Ratio	66.2%	66.0%
30 Year ARC	20.07%	20.16%

Please see Appendix A of our Report for a complete description of these assumptions. For a detailed analysis of the actuarial assumptions of the System, please see our separate 2010 Actuarial Experience Study Report.

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## **GASB 25 and Funding Progress**

Governmental Accounting Standards Board Statement No. 25 (GASB 25) contains certain accounting requirements for HMEPS. In particular, it requires the inclusion of two special schedules in the HMEPS annual report:

1. Schedule of Funding Progress
2. Schedule of Employer Contributions

Information needed to prepare the Schedule of Funding Progress is included in Table 15. This shows that the funded ratio (ratio of actuarial assets to accrued liabilities) decreased dramatically over the three-year period ending with the 2003 valuation, and subsequently generally increased over the next five valuations. However, with the loss in the actuarial value of assets in FY 2009 and FY 2010 the funded ratio has decreased to the 2005-2006 levels.

GASB 25 also requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. For this disclosure, HMEPS treats the employer contribution rate established under the Meet & Confer Agreement as the ARC, as long as this produces a funding period of 30 years or less.

Under GASB 25, the ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the UAAL. This amortization payment must be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC may be computed as a level dollar amount, or it may be computed as an amount which increases with payroll (level-percentage-of-pay). However, if payments are computed on a level-percentage-of-payroll approach, the payroll growth assumption may not anticipate future membership growth.

Since the recommended employer contribution rate is computed as a level-percentage-of-payroll using an amortization period of 29 years from the valuation date, the recommended rate meets the definition of an acceptable ARC.

Summary of Cost Items

	Valuation as of July 1, 2010		Valuation as of July 1, 2009	
	Cost Item (1)	Cost as % of Pay (2)	Cost Item (3)	Cost as % of Pay (4)
1. Participants				
a. Actives	12,913		13,333	
b. Retirees	6,482		6,336	
c. Disabled retirees	404		415	
d. Beneficiaries	1,640		1,589	
e. Inactive, deferred vested	2,815		2,884	
f. Inactive, nonvested	2,820		2,858	
g. Total	27,074		27,415	
2. Covered payroll	\$ 550,709		\$ 539,023	
3. Averages for active members				
a. Average age	45.8		45.1	
b. Average years of service	10.0		9.2	
c. Average pay (\$)	\$ 42,648		\$ 40,428	
4. Present value of future pay	\$ 3,799,669		\$ 3,447,609	
5. Total normal cost rate	5.87%		5.80%	
6. Present value of future benefits	\$ 3,975,116	721.8%	\$ 3,764,512	698.4%
7. Present value of future normal costs	\$ 342,646	62.2%	\$ 312,993	58.1%
8. Service purchase receivable	\$ 0		\$ (109)	
9. Actuarial accrued liability (6 - 7 + 8)	\$ 3,632,470	659.6%	\$ 3,451,410	640.3%
10. Present actuarial assets	\$ 2,273,142	412.8%	\$ 2,284,442	423.8%
11. Unfunded actuarial accrued liability (UAAL)	\$ 1,359,328	246.8%	\$ 1,166,968	216.5%
12. Funding period	29 years		30 years	
13. Employer contribution rate				
a. Normal cost	5.87%		5.80%	
b. Amortization charge	16.49%		14.27%	
c. Total	22.36%		20.07%	
14. Average estimated return				
a. Based on market value	11.84%		-16.50%	
b. Based on actuarial value	3.54%		2.60%	
15. GASB 25 funded ratio	62.6%		66.2%	

Note: Dollar amounts in \$000

**Calculation of Annual Required Contribution Rate**

	July 1, 2010 (1)	July 1, 2009 (2)
1. Covered payroll	\$ 550,709	\$ 539,023
2. Covered payroll adjusted for one-year's pay increase	\$ 574,496	\$ 559,369
3. Present value of future pay	\$ 3,799,669	\$ 3,447,609
4. Employer normal cost rate	5.87%	5.80%
5. Actuarial accrued liability for active members		
a. Present value of future benefits for active members	\$ 1,916,303	\$ 1,789,798
b. Less: present value of future employer normal costs	(212,094)	(189,451)
c. Less: present value of future employee contributions	(130,552)	(123,542)
d. Service Purchase Receivable <sup>1</sup>	0	(109)
e. Actuarial accrued liability	<u>\$ 1,573,657</u>	<u>\$ 1,476,696</u>
6. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 1,917,593	\$ 1,836,726
b. Inactive participants	141,220	137,988
c. Active members (Item 5e)	<u>1,573,657</u>	<u>1,476,696</u>
d. Total	<u>\$ 3,632,470</u>	<u>\$ 3,451,410</u>
7. Actuarial value of assets	\$ 2,273,142	\$ 2,284,442
8. Unfunded actuarial accrued liability (UAAL) (Item 6d - Item 7)	\$ 1,359,328	\$ 1,166,968
9. Funding period	29 years	30 years
10. Assumed payroll growth rate	3.00%	3.00%
11. Employer Contribution requirement		
a. UAAL amortization payment as % of pay	16.49%	14.27%
b. Employer normal cost	<u>5.87%</u>	<u>5.80%</u>
c. Contribution requirement (a + b)	<u>22.36%</u>	<u>20.07%</u>

Note: Dollar amounts in \$000

<sup>1</sup> Includes actual current receivable for actives who have entered into an obligation. This value has become immaterial will no longer be included in the valuation.

**Actuarial Present Value of Future Benefits**

	July 1, 2010 (1)	July 1, 2009 (2)
1. Active members		
a. Retirement benefits	\$ 1,692,579	\$ 1,589,082
b. Deferred termination benefits	125,313	98,000
c. Refunds	14,752	13,194
d. Death benefits	70,028	58,614
e. Disability benefits	13,631	30,908
f. Total	<u>\$ 1,916,303</u>	<u>\$ 1,789,798</u>
2. Members in Pay Status		
a. Service retirements	\$ 1,719,561	\$ 1,656,586
b. Disability retirements	37,905	37,958
c. Beneficiaries	160,127	142,182
d. Total	<u>\$ 1,917,593</u>	<u>\$ 1,836,726</u>
4. Inactive members		
a. Vested terminations	\$ 136,663	\$ 133,507
b. Nonvested terminations	4,557	4,481
c. Total	<u>\$ 141,220</u>	<u>\$ 137,988</u>
5. Total actuarial present value of future benefits	\$ 3,975,116	\$ 3,764,512

Note: Dollar amounts in \$000

**Analysis of Normal Cost**

	<u>July 1, 2010</u>	<u>July 1, 2009</u>
	(1)	(2)
1. Gross normal cost rate		
a. Retirement benefits	4.69%	4.65%
b. Deferred termination benefits	0.72%	0.58%
c. Refunds	0.00%	0.00%
d. Disability benefits	0.07%	0.17%
e. Death benefits	0.39%	0.40%
f. Total	<u>5.87%</u>	<u>5.80%</u>

**Calculation of Total Actuarial Gain or Loss**

1. Unfunded actuarial accrued liability (UAAL) as of July 1, 2009	\$ 1,166,968
2. Employer normal cost for year*	32,494
3. Employer Contributions during year ending June 30, 2010*	(82,052)
4. Interest on UAAL for one year	99,192
5. Interest on Item 2 and Item 3 for one-half year	<u>(2,063)</u>
6. Expected UAAL as of July 1, 2010 (1+2+3+4+5)	\$ 1,214,539
7. Actual UAAL as of July 1, 2010	\$ 1,359,328
8. Actuarial gain/(loss) for the period (6 - 7)	\$ (144,789)
 <u>SOURCE OF GAINS/(LOSSES)</u>	
9. Asset gain/(loss) (See Table 13)	\$ (111,163)
10. Assumption changes	\$ (9,207)
11. Changes from Meet & Confer	0
12. Total liability gain/(loss) for the period	<u>\$ (24,419)</u>
13. Actuarial gain/(loss) for the period	\$ (144,789)

Note: Dollar amounts in \$000

\*Employee contributions are excluded due to use of replacement life normal cost method for ongoing plan.  
 New members (Group D) do not contribute to the plan.

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**Change in Calculated Contribution Rate Since the Prior Valuation**

1.	Calculated Contribution Rate as of July 1, 2009		20.07%
2.	Change in Contribution Rate During Year		
	a. Change in Employer Normal Cost	0.01%	
	b. Assumption changes	0.09%	
	c. Recognition of prior asset losses (gains)	1.50%	
	d. Actuarial (gain) loss from current year asset performance	(0.11%)	
	e. Actuarial (gain) loss from liability sources	0.26%	
	f. Impact of City contributing different than expected*	0.39%	
	g. Effect of Payroll growing slower than Payroll Growth Rate	0.15%	
	i. Total Change		<u>2.29%</u>
3.	Calculated Rate as of July 1, 2010		22.36%

\*The City will contribute \$88.5 million in FY2011 compared to an approximate ARC of \$115 million

Near Term Outlook

Valuation as of July 1, (1)	Unfunded Actuarial Accrued Liability (UAAL, in 000s) (2)	Funded Ratio (3)	Calculated Contribution Rate (4)	Funding Period (Years) <sup>2</sup> (5)	Market Value of Fund (in 000s) (6)	For Fiscal Year Ending June 30, (7)	Covered Compensation (8)	Employer Contributions (9)	Employee Contributions (10)	Benefit Payments and Refunds (11)	Net External Cash Flow (12)
2010	\$ 1,359,381	62.6%	22.36%	29.0	\$ 1,828,491	2011	\$ 574,496	\$ 88,500 <sup>1</sup>	\$ 18,733	\$ 201,616	\$ (94,383)
2011	1,513,935	60.0%	23.50%	28.0	1,885,600	2012	595,159	133,055	17,699	218,061	(67,307)
2012	1,623,750	58.7%	24.60%	27.0	1,975,766	2013	612,007	143,847	16,758	235,898	(75,293)
2013	1,721,913	57.8%	25.54%	26.0	2,065,279	2014	629,449	154,824	15,866	255,162	(84,472)
2014	1,808,743	57.1%	26.35%	25.0	2,152,838	2015	647,686	165,425	15,010	275,288	(94,853)
2015	1,884,981	56.6%	27.05%	24.0	2,237,028	2016	666,594	175,663	14,179	296,420	(106,578)
2016	1,951,248	56.2%	27.66%	23.0	2,316,160	2017	686,125	185,619	13,374	294,745	(95,752)
2017	2,008,798	56.2%	28.19%	22.0	2,413,295	2018	706,662	195,482	12,589	312,290	(104,219)
2018	2,057,085	56.3%	28.64%	21.0	2,509,867	2019	728,074	205,250	11,816	330,239	(113,173)
2019	2,096,194	56.6%	29.02%	20.0	2,605,321	2020	750,508	214,964	11,052	347,961	(121,946)
2020	2,126,088	56.9%	29.34%	19.0	2,699,751	2021	773,970	224,635	10,290	364,054	(129,129)

These projections are based on the Fourth Amendment assuming that the benefit provisions that went into effect January 1, 2008 remain in effect throughout the projection. Also, beginning in FY2012, the employer contributions shown above are based on the calculated contribution rate from the actuarial valuation performed one year prior (i.e. the FY 2012 rate is set by the June 30, 2010 valuation). Any changes to future accruals or failure to contribute the calculated rate will change the results of this projection.

<sup>1</sup> The agreement between the City and HMEPS includes a \$75 million employer contribution for FY 2008, a \$78.5 million employer contribution for FY 2009, a \$83.5 million employer contribution for FY2010, and a \$88.5 million employer contribution in FY2011.

<sup>2</sup> The agreement between the City and HMEPS included an open 30 year amortization period until the 2009 valuation. Beginning with the 2009 valuation, the amortization period will be a closed 30 years from July 1, 2009.

Note: Dollar amounts in \$000.

Statement of Plan Net Assets

	<u>July 1, 2010</u>	<u>July 1, 2009</u>
	(1)	(2)
<b>A. ASSETS</b>		
1. Current Assets		
a. Cash and short term investments		
1) Cash on hand	\$ 1,599	\$ 405
2) Short term investments	23,298	41,292
b. Accounts Receivable		
1) Sale of investments	7,574	7,796
2) Other	8,500	6,267
c. Total Current Assets	<u>\$ 40,971</u>	<u>\$ 55,760</u>
2. Long Term Investments		
a. US. Government securities	\$ 1,591	\$ 46,951
b. Corporate bonds	137,937	134,194
c. Capital stocks	577,373	435,433
d. Commingled Funds	555,114	586,691
e. LP's, real estate trusts, loans and mortgages	529,620	499,680
f. Total long term investments	<u>\$ 1,801,635</u>	<u>\$ 1,702,949</u>
3. Other Assets		
a. Collateral on securities lending	\$ 151,091	\$ 81,757
b. Furniture, fixtures and equipment, net	352	471
c. Note receivable - City of Houston		
d. Accrued interest on note receivable		
e. Total other assets	<u>\$ 151,443</u>	<u>\$ 82,228</u>
4. Total Assets	<u>\$ 1,994,049</u>	<u>\$ 1,840,937</u>
<b>B. LIABILITIES</b>		
1. Current Liabilities		
a. Amounts due on asset purchases	\$ 9,593	\$ 24,349
b. Accrued liabilities	4,873	4,688
c. Collateral on securities lending	151,091	81,757
2. Total Liabilities	165,557	110,795
3. Net Assets Held in Trust	\$ 1,828,492	\$ 1,730,142
<b>C. TARGET ASSET ALLOCATION FOR CASH &amp; LONG TERM INVESTMENTS</b>		
1. Cash	0.0%	3.0%
2. Fixed Income	20.0%	23.0%
3. Real Assets	17.0%	13.0%
4. Domestic Equities	20.0%	23.0%
5. International Equities	20.0%	23.0%
6. Alternative Investments	23.0%	15.0%
7. Total	100.0%	100.0%

Note: Dollar amounts in \$000  
 Columns may not add due to rounding

**Reconciliation of Plan Net Assets**

	Year Ending	
	June 30, 2010 (1)	June 30, 2009 (2)
1. Market value of assets at beginning of year	\$ 1,730,142	\$ 2,262,033
2. Revenue for the year		
a. Contributions		
i. Member contributions	\$ 19,736	\$ 20,449
ii. Employer contributions (see note)	82,052	76,837
iii. Total	\$ 101,788	\$ 97,286
b. Net investment income		
i. Interest	\$ 11,681	\$ 10,890
ii. Dividends	13,029	11,321
iii. Earnings from LP's and real estate trusts	7,775	4,922
iv. Net appreciation (depreciation) on investments	168,582	(479,332)
v. Interest income - City of Houston note receivable	-	15,937
vi. Net proceeds from lending securities	426	1,070
vii. Less investment expenses	(6,061)	(5,106)
viii. Other	558	489
c. Total revenue	\$ 297,779	\$ (342,524)
3. Expenditures for the year		
a. Refunds	\$ 1,285	\$ 1,795
b. Benefit payments	191,048	180,361
c. Administrative and miscellaneous expenses	7,095	7,211
d. Total expenditures	\$ 199,428	\$ 189,367
4. Increase in net assets (Item 2c - Item 3d)	\$ 98,350	\$ (531,891)
5. Market value of assets at end of year (Item 1 + Item 4)	\$ 1,828,492	\$ 1,730,142

Note: Dollar amounts in \$000

Employer contribution does not include amounts contributed to the replacement benefit plan.

**Development of Actuarial Value of Assets**

	<u>July 1, 2010</u>
	(1)
1. Actuarial value of assets, at beginning of year	\$ 2,284,442
2. Net new investments	
a. Contributions	\$ 101,788
b. Benefits paid	(191,048)
c. Refunds	<u>(1,285)</u>
d. Total	\$ (90,545)
3. Assumed investment return rate	8.50%
4. Expected return	\$ 190,408
5. Expected value of assets at end of year	\$ 2,384,305
6. Market value of assets at end of year	\$ 1,828,492
7. Excess of market value over expected value (6)-(5)	\$ (555,813)
8. 20% adjustment towards market value	\$ (111,163)
9. Actuarial value of assets at end of year: (5) + (8)	\$ 2,273,142

Note: Dollar amounts in \$000

**Estimation of Dollar-Weighted Investment Return**

Item (1)	Market Value (2)	Actuarial Value (3)
1. Assets as of July 1, 2009 (A)	\$ 1,730,142	\$ 2,284,442
2. Contributions during FY10	101,788	101,788
3. Benefit payments made during FY10	191,048	191,048
4. Refunds of contributions during FY10	1,285	1,285
5. Expenses during FY10	7,095	7,095
6. Investment return during FY10	195,990	86,340
7. Assets as of July 1, 2010 (B): (1 + 2 - 3 - 4 - 5 + 6 )	1,828,492	2,273,142
8. Approximate rate of return on average invested assets		
a. Net investment income (6 - 5 = I)	188,896	79,245
b. Estimated return based on $(2I/(A + B - I))$	11.84% *	3.54%

Note: Dollar amounts in \$000

\* Market rate of return as reported in HMEPS 2010 CAFR, net 0.40% of expenses

**Investment Experience Gain or Loss**

Item (1)	Valuation as of 6/30/2010 (2)	Valuation as of 6/30/2009 (3)
1. Actuarial assets, prior valuation	\$ 2,284,442	\$ 2,310,384
2. Total contributions since prior valuation	\$ 101,788	\$ 97,286
3. Benefits and refunds since prior valuation	\$ (192,334)	\$ (182,156)
4. Assumed net investment income at 8.5%		
a. Beginning assets	\$ 194,177	\$ 196,383
b. Contributions	4,238	4,050
c. Benefits and refunds paid	(8,007)	(7,584)
d. Total	\$ 190,408	\$ 192,849
5. Expected actuarial assets (Sum of Items 1 through 4)	\$ 2,384,305	\$ 2,418,363
6. Actual actuarial assets, this valuation	\$ 2,273,142	\$ 2,284,442
7. Asset gain (loss) since prior valuation (Item 6 - Item 5)	\$ (111,163)	\$ (133,921)

Note: Dollar amounts in \$000

**History of Investment Returns**

For Fiscal Year Ending <u>(1)</u>	<u>Market Value</u> (2)	<u>Actuarial Value</u> (3)
June 30, 2000	22.10%	13.00%
June 30, 2001	(4.56%)	8.97%
June 30, 2002	(7.99%)	3.64%
June 30, 2003	2.34%	1.69%
June 30, 2004	18.10%	4.16%
June 30, 2005	12.85%	4.12%
June 30, 2006	16.41%	8.95%
June 30, 2007	17.85%	21.51%
June 30, 2008	(0.25%)	8.97%
June 30, 2009	(16.50%)	2.60%
June 30, 2010	11.84%	3.54%
Average Return - last 5 years	5.03%	8.91%
Average Return - last 10 years	4.35%	6.68%

Net of administrative and investment expenses.

**Historical Solvency Test**

Valuation Date	Aggregated Accrued Liabilities for				by Reported Assets		
	Active Members Contributions	Retirees Beneficiaries and Vested Terminations <sup>1</sup>	Members (City Financed Portion)	Actuarial Value of Assets	(5)/(2)	[(5)-(2)]/(3)	[(5)-(2)-(3)]/(4)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
July 1, 1991	\$ 32,606	\$ 289,174	\$ 366,542	\$ 558,144	100.0%	100.0%	64%
July 1, 1992	32,850	317,849	414,600	608,524	100.0%	100.0%	62%
July 1, 1993	32,866	369,561	437,894	660,637	100.0%	100.0%	59%
July 1, 1994	32,410	384,100	470,189	713,696	100.0%	100.0%	63%
July 1, 1995	31,130	420,830	511,752	770,189	100.0%	100.0%	62%
July 1, 1996	45,819	438,486	558,154	857,332	100.0%	100.0%	67%
July 1, 1998	34,781	502,335	703,025	1,095,617	100.0%	100.0%	79%
July 1, 1999	33,985	599,270	706,678	1,222,240	100.0%	100.0%	83%
July 1, 2000	38,292	646,611	824,470	1,376,020	100.0%	100.0%	84%
July 1, 2001	36,449	804,901	1,114,456	1,490,179	100.0%	100.0%	58%
July 1, 2002	35,888	893,568	1,585,733	1,519,717	100.0%	100.0%	37%
July 1, 2003	44,388	1,115,801	2,118,063	1,510,264	100.0%	100.0%	17%
July 1, 2004	62,062	1,355,157	1,216,599	1,501,235	100.0%	100.0%	7%
July 1, 2005	48,150	1,577,345	1,099,777	1,777,656	100.0%	100.0%	14%
July 1, 2006	58,043	1,729,863	1,106,389	1,867,293	100.0%	100.0%	7%
July 1, 2007	69,544	1,824,992	1,234,178	2,193,745	100.0%	100.0%	24%
July 1, 2008	81,182	1,904,333	1,310,855	2,310,384	100.0%	100.0%	25%
July 1, 2009	95,268	1,974,714	1,381,428	2,284,442	100.0%	100.0%	16%
July 1, 2010	107,421	2,058,813	1,466,236	2,273,142	100.0%	100.0%	7%

Note: Dollar amounts in \$000

<sup>1</sup> Column (3) included AAL for DROP participants until 2003, now in Column (4)

Schedule of Funding Progress

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
July 1, 1992	\$ 608,524	\$ 765,299	\$ 156,775	79.5%	\$ 314,686	49.8%
July 1, 1993	660,637	840,321	179,684	78.6%	340,249	52.8%
July 1, 1994	713,696	886,699	173,003	80.5%	366,561	47.2%
July 1, 1995	770,189	963,712	193,523	79.9%	378,511	51.1%
July 1, 1996	857,332	1,042,459	185,127	82.2%	367,610	50.4%
July 1, 1998	1,095,617	1,240,141	144,524	88.3%	397,698	36.3%
July 1, 1999	1,222,240	1,339,933	117,693	91.2%	407,733	28.9%
July 1, 2000	1,376,020	1,509,373	133,353	91.2%	432,604	30.8%
July 1, 2001	1,490,179	1,955,806	465,627	76.2%	418,234	111.3%
July 1, 2002	1,519,717	2,515,189	995,472	60.4%	399,794	249.0%
July 1, 2003	1,510,264	3,278,251	1,767,987	46.1%	390,314	453.0%
July 1, 2004	1,501,235	2,633,817	1,132,582	57.0%	366,190	309.3%
July 1, 2005	1,777,656	2,725,272	947,616	65.2%	404,565	234.2%
July 1, 2006	1,867,293	2,894,295	1,027,002	64.5%	422,496	243.1%
July 1, 2007	2,193,745	3,128,713	934,968	70.1%	448,925	208.3%
July 1, 2008	2,310,384	3,296,370	985,986	70.1%	483,815	203.8%
July 1, 2009	2,284,442	3,451,410	1,166,968	66.2%	539,023	216.5%
July 1, 2010	2,273,142	3,632,470	1,359,328	62.6%	550,709	246.8%

Note: Dollar amounts in \$000

**Historical City Contribution Rates**

Valuation Date	Calculated Contribution Rate <sup>1</sup>	Time Period for Contribution Rate	Actual Contribution Rate
(1)	(2)	(3)	(4)
July 1, 1987	5.83%	January 1, 1988 through December 31, 1988	5.15%
July 1, 1988	6.27	January 1, 1989 through December 31, 1989	5.15
July 1, 1989	6.88	January 1, 1990 through December 31, 1990	6.27
July 1, 1990	6.23	January 1, 1991 through December 31, 1991	6.27
July 1, 1991	8.77	January 1, 1992 through June 30, 1993	6.27
July 1, 1992	9.11	July 1, 1993 through June 30, 1994	9.11
July 1, 1993	9.30	July 1, 1994 through June 30, 1995	9.30
July 1, 1994	8.80	July 1, 1995 through June 30, 1996	8.80
July 1, 1995	9.20	July 1, 1996 through June 30, 1997	9.20
July 1, 1996	9.10	July 1, 1997 through June 30, 1998	9.10
		July 1, 1998 through June 30, 1999	9.10
July 1, 1998	9.30	July 1, 1999 through June 30, 2000	9.30
July 1, 1999	9.80	July 1, 2000 through June 30, 2001	10.00
July 1, 2000	9.50	July 1, 2001 through June 30, 2002	10.00
July 1, 2001	17.70	July 1, 2002 through June 30, 2003	10.00
July 1, 2002	31.80	July 1, 2003 through June 30, 2004	14.70
July 1, 2003	52.89	July 1, 2004 through June 30, 2005	92.55 <sup>2,3</sup>
July 1, 2004	29.43	July 1, 2005 through June 30, 2006	15.49 <sup>3</sup>
July 1, 2005	24.10	July 1, 2006 through June 30, 2007	15.89 <sup>3</sup>
July 1, 2006	24.63	July 1, 2007 through June 30, 2008	15.52 <sup>4</sup>
July 1, 2007	19.47	July 1, 2008 through June 30, 2009	14.63 <sup>4</sup>
July 1, 2008	19.20	July 1, 2009 through June 30, 2010	14.65 <sup>4</sup>
July 1, 2009	20.07	July 1, 2010 through June 30, 2011	N/A
July 1, 2010	22.36	July 1, 2011 through June 30, 2012	N/A

<sup>1</sup> Rate determined by the actuarial valuation is for the fiscal year beginning on the July 1st next following the valuation date.

<sup>2</sup> Includes \$300 million note.

<sup>3</sup> As pursuant to the three year funding schedule from the 2004 Meet and Confer agreement.

<sup>4</sup> As pursuant to the three year funding schedule from the Fourth Amendment.

**Historical Active Participant Data**

Valuation Date	Active Count	Average Age	Average Svc	Covered Payroll	Average Salary	Percent Changes
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1988	11,344	N/A	N/A	\$227,900	\$20,090	1.9%
1989	11,356	N/A	N/A	\$235,400	\$20,729	3.2%
1990	12,037	40.0	N/A	\$258,556	\$21,480	3.6%
1991	12,488	40.3	N/A	\$284,914	\$22,815	6.2%
1992	12,913	40.5	N/A	\$314,686	\$24,370	6.8%
1993	13,112	40.9	N/A	\$340,249	\$25,949	6.5%
1994	14,027	40.9	N/A	\$366,561	\$26,133	0.7%
1995	14,364	41.3	N/A	\$378,511	\$26,351	0.8%
1996	14,067	41.8	N/A	\$367,610	\$26,133	(0.8%)
1998 <sup>1</sup>	13,764	42.8	9.8	\$394,919	\$28,692	9.8%
1999 <sup>1</sup>	13,286	42.9	9.8	\$396,617	\$29,852	4.0%
2000 <sup>1</sup>	13,126	43.7	10.3	\$421,591	\$32,119	7.6%
2001 <sup>1</sup>	12,928	43.9	10.3	\$413,021	\$31,948	(0.5%)
2002	12,527	44.7	11.0	\$399,794	\$31,915	(0.1%)
2003	12,120	45.2	11.2	\$390,314	\$32,204	0.9%
2004	11,856	45.1	10.3	\$366,190	\$30,886	(4.1%)
2005 <sup>2</sup>	11,974	44.8	9.6	\$404,565	\$33,787	9.4%
2006	12,145	44.8	9.3	\$422,496	\$34,788	3.0%
2007	12,376	45.2	9.3	\$448,925	\$36,274	4.3%
2008	12,653	45.2	9.3	\$483,815	\$38,237	5.4%
2009	13,333	45.1	9.2	\$539,023	\$40,428	5.7%
2010	12,913	45.8	10.0	\$550,709	\$42,648	5.5%

Note: Dollar amounts in \$000

<sup>1</sup> Excludes DROP participants

<sup>2</sup> Beginning with the 2005 valuation, a change in methodology now annualizes payroll for new entrants. If the methodology had not been changed, the covered payroll for 2005 would have been \$376,208,345 and the average payroll would have been \$31,419.

**Retirees, Beneficiaries, and Disabled Participants Added to and Removed from Rolls**

Valuation July 1,	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994	306	\$ 2,474	227	\$ 1,593	4,268	\$ 33,971	4.8%	\$ 7,959
1995	393	3,044	220	1,307	4,441	36,482	7.4%	8,215
1996	416	3,119	239	1,438	4,618	38,815	6.4%	8,405
1998	693	5,840	441	3,212	4,870	43,394	11.8%	8,910
1999	432	2,131	303	1,515	4,999	46,732	7.7%	9,348
2000	360	3,412	255	1,380	5,104	49,970	6.9%	9,790
2001	652	8,937	299	1,030	5,457	57,877	15.8%	10,606
2002	777	15,061	306	2,476	5,928	72,256	24.8%	12,189
2003	598	11,497	311	1,873	6,215	84,519	17.0%	13,599
2004	942	25,189	279	2,624	6,878	107,084	26.7%	15,569
2005	861	18,054	216	1,926	7,523	123,212	15.1%	16,378
2006	654	14,722	397	2,246	7,780	135,688	10.1%	17,441
2007	440	10,280	249	3,007	7,971	142,961	5.4%	17,935
2008	464	11,052	280	3,420	8,155	150,592	5.3%	18,466
2009	474	11,430	289	3,667	8,340	158,356	5.2%	18,988
2010	476	12,040	290	3,938	8,526	166,458	5.1%	19,524

Note: Dollar amounts in \$000

**Membership Data**

	July 1, 2010 (1)	July 1, 2009 (2)	July 1, 2008 (3)
1. Active members			
a. Number	12,913	13,333	12,653
b. Number vested	7,812	7,392	7,234
c. Total payroll	\$ 550,709,000	\$ 539,023,000	\$ 483,815,000
d. Average salary	42,648	40,428	38,237
e. Average age	45.8	45.1	45.2
f. Average service	10.0	9.2	9.3
2. Inactive participants			
a. Vested	2,815	2,884	2,931
b. Total annual benefits (deferred)	\$ 19,275,063	\$ 19,598,333	\$ 19,810,841
c. Average annual benefit	6,847	6,796	6,759
d. NonVested	2,820	2,858	2,799
3. Service retirees			
a. Number	6,482	6,336	6,186
b. Total annual benefits	\$ 144,420,686	\$ 138,122,560	\$ 131,764,882
c. Average annual benefit	22,280	21,800	21,300
d. Average age	67.4	66.7	66.7
4. Disabled retirees			
a. Number	404	415	428
b. Total annual benefits	\$ 3,663,246	\$ 3,688,896	\$ 3,647,751
c. Average annual benefit	9,067	8,889	8,523
d. Average age	63.0	62.2	62.2
5. Beneficiaries and spouses			
a. Number	1,640	1,589	1,541
b. Total annual benefits	\$ 18,374,299	\$ 16,544,378	\$ 15,179,749
c. Average annual benefit	11,204	10,412	9,851
d. Average age	68.7	68.6	68.5

**Distribution of Group A Active Members by Age and by Years of Service**

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25	1 \$23,642		39 \$26,850	23 \$25,046	18 \$30,581	2 \$33,598							83 \$27,283
25-29	1 \$31,903		126 \$31,870	122 \$34,275	115 \$35,646	117 \$31,641	2 \$36,508						483 \$33,340
30-34	1 \$26,208		119 \$34,938	132 \$38,859	129 \$38,086	259 \$38,826	47 \$37,908	1 \$40,684					688 \$37,943
35-39	2 \$39,056		90 \$38,591	127 \$40,247	119 \$41,016	303 \$41,663	119 \$42,417	34 \$44,170	1 \$56,325				795 \$41,224
40-44	3 \$34,099	1 \$54,757	71 \$38,029	132 \$41,460	114 \$43,984	345 \$42,050	154 \$46,775	142 \$48,724	47 \$43,818	2 \$41,705			1,011 \$43,636
45-49	5 \$63,110		68 \$35,232	143 \$40,592	125 \$43,212	369 \$42,302	212 \$44,839	212 \$50,326	162 \$48,367	111 \$47,979	4 \$56,484		1,411 \$44,712
50-54	2 \$57,580		60 \$41,770	114 \$39,372	114 \$43,599	374 \$43,032	208 \$46,872	265 \$52,166	184 \$53,394	159 \$52,372	63 \$54,073		1,543 \$47,508
55-59	4 \$42,327		32 \$52,890	86 \$40,003	90 \$42,867	316 \$46,524	213 \$48,525	215 \$53,106	155 \$56,169	84 \$55,081	41 \$62,063	4 \$52,702	1,240 \$49,761
60-64	3 \$53,176		20 \$52,644	66 \$46,230	50 \$50,292	206 \$44,468	138 \$49,148	127 \$52,837	69 \$60,724	63 \$60,029	22 \$59,893	6 \$87,390	770 \$50,968
65 & Over			11 \$45,375	10 \$57,022	22 \$54,944	92 \$45,787	56 \$44,838	59 \$51,859	25 \$67,206	15 \$52,601	3 \$95,348	6 \$56,611	299 \$50,689
Total	22 \$46,441	1 \$54,757	636 \$37,013	955 \$39,608	896 \$41,753	2,383 \$42,272	1,149 \$46,118	1,055 \$51,319	643 \$53,424	434 \$52,843	133 \$58,502	16 \$67,176	8,323 \$44,919
Average:		Age: Service:	47.35 10.73		Number of participants:		Fully vested: Not Vested:	5,813 2,510		Males: Females:	4,580 3,743		

Note: A former Group A employee who is rehired on or after January 1, 2008 is still a Group A employee.

**Distribution of Group B Active Members by Age and by Years of Service**

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25													
25-29						1 \$21,405							1 \$21,405
30-34						2 \$22,150	40 \$36,878	1 \$38,815					43 \$36,238
35-39						1 \$30,780	115 \$37,901	43 \$39,548	1 \$37,681				160 \$38,298
40-44						2 \$62,058	147 \$37,088	148 \$40,422	47 \$40,208	3 \$29,203			347 \$39,008
45-49						2 \$33,715	106 \$37,725	148 \$41,674	107 \$40,320	52 \$39,568	2 \$29,061		417 \$39,962
50-54						2 \$46,777	104 \$40,464	159 \$40,742	93 \$43,312	59 \$40,095	8 \$45,484		425 \$41,264
55-59							86 \$39,395	132 \$40,172	80 \$44,637	27 \$42,849	11 \$44,413	3 \$45,967	340 \$41,485
60-64						1 \$34,344	50 \$42,121	72 \$41,182	38 \$46,766	22 \$47,367	2 \$46,222		185 \$43,336
65 & Over							17 \$37,399	35 \$42,560	17 \$43,864	7 \$54,517	4 \$58,889	1 \$32,470	81 \$43,466
Total						12 \$39,639	665 \$38,530	738 \$40,820	383 \$42,724	170 \$41,714	27 \$45,872	4 \$42,593	1,999 \$40,564
Average:		Age: Service:	50.01 17.63		Number of participants:		Fully vested: Not Vested:	1,999 0		Males: Females:	997 1,002		

**Distribution of Group D Active Members by Age and by Years of Service**

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25	53 \$27,849	147 \$26,113	71 \$28,240										271 \$27,010
25-29	85 \$33,315	305 \$31,741	151 \$31,652										541 \$31,963
30-34	63 \$37,488	216 \$35,656	115 \$33,917										394 \$35,441
35-39	56 \$42,698	176 \$37,574	103 \$36,864										335 \$38,212
40-44	52 \$36,625	159 \$39,771	91 \$35,231										302 \$37,861
45-49	49 \$53,828	109 \$38,918	101 \$39,723										259 \$42,053
50-54	25 \$42,165	127 \$40,774	66 \$42,049										218 \$41,319
55-59	27 \$57,303	88 \$44,437	65 \$44,070										180 \$46,234
60-64	12 \$72,135	35 \$47,529	20 \$50,579										67 \$52,847
65 & Over	4 \$69,597	13 \$47,796	5 \$45,818										22 \$51,311
Total	426 \$40,723	1,377 \$36,190	788 \$36,270										2,591 \$36,959
Average:		Age: Service:	37.69 1.59	Number of participants:			Fully vested: Not Vested:	- 2,591	Males: Females:	1,406 1,185			

**Distribution of All Active Members by Age and by Years of Service All Employees**

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25	54 \$27,771	147 \$26,113	110 \$27,747	23 \$25,046	18 \$30,581	2 \$33,598							354 \$27,074
25-29	86 \$33,298	305 \$31,741	277 \$31,751	122 \$34,275	115 \$35,646	118 \$31,554	2 \$36,508						1,025 \$32,602
30-34	64 \$37,312	216 \$35,656	234 \$34,436	132 \$38,859	129 \$38,086	261 \$38,699	87 \$37,434	2 \$39,750					1,125 \$37,002
35-39	58 \$42,573	176 \$37,574	193 \$37,669	127 \$40,247	119 \$41,016	304 \$41,628	234 \$40,198	77 \$41,589	2 \$47,003				1,290 \$40,079
40-44	55 \$36,487	160 \$39,865	162 \$36,457	132 \$41,460	114 \$43,984	347 \$42,166	301 \$42,044	290 \$44,487	94 \$42,013	5 \$34,203			1,660 \$41,618
45-49	54 \$54,688	109 \$38,918	169 \$37,916	143 \$40,592	125 \$43,212	371 \$42,255	318 \$42,467	360 \$46,769	269 \$45,166	163 \$45,296	6 \$47,343		2,087 \$43,433
50-54	27 \$43,307	127 \$40,774	126 \$41,916	114 \$39,372	114 \$43,599	376 \$43,052	312 \$44,736	424 \$47,882	277 \$50,009	218 \$49,050	71 \$53,105		2,186 \$45,677
55-59	31 \$55,370	88 \$44,437	97 \$46,980	86 \$40,003	90 \$42,867	316 \$46,713	299 \$45,899	347 \$48,186	235 \$52,243	111 \$52,106	52 \$58,329	7 \$49,815	1,760 \$47,801
60-64	15 \$68,343	35 \$47,529	40 \$51,611	66 \$46,230	50 \$50,292	207 \$44,419	188 \$47,279	199 \$48,620	107 \$55,767	85 \$56,751	24 \$58,753	6 \$87,390	1,022 \$49,709
65 & Over	4 \$69,597	13 \$47,796	16 \$45,513	10 \$57,022	22 \$54,944	92 \$45,787	73 \$43,106	94 \$48,397	42 \$57,758	22 \$53,210	7 \$74,514	7 \$53,162	402 \$49,267
Total	448 \$41,004	1,378 \$36,203	1,424 \$36,601	955 \$39,608	896 \$41,753	2,395 \$42,259	1,814 \$43,337	1,793 \$46,998	1,026 \$49,430	604 \$49,711	160 \$56,371	20 \$62,259	12,913 \$42,648
Average:		Age: Service:	45.82 9.96		Number of participants:		Fully vested: Not Vested:	7,812 5,101		Males: Females:	6,983 5,930		

## Summary of Actuarial Assumptions and Methods

The following methods and assumptions were used in preparing the July 1, 2010, actuarial valuation. These assumptions were adopted by the Board effective for the July 1, 2010 valuation.

### 1. Valuation Date

The valuation date is July 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

### 2. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability.

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 8.5 percent), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Plan are determined using a level funding approach, and consist of a normal contribution and an accrued liability contribution.
- c. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his behalf based on the benefits provisions for new employees hired on or after January 1, 2008.

- d. The unfunded accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date.

The contribution rate determined by this valuation will not be effective until one year later and the determination of the rate reflects this deferral. It is assumed that there will be no change in the employer normal cost rate due to the deferral, and it is assumed that payments are made uniformly throughout the year.

3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income on an aggregate basis. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

4. Economic Assumptions

- a. Investment return: 8.50% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.50% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.
- b. Salary increase rate: A service-related component, plus a 3.00% inflation component, plus a 0.0% general increase, as follows:

Years of Service	Service-related Component	Total Annual Rate of Increase Including 3.00% Inflation Component and 0.0% General Increase Rate
(1)	(2)	(3)
1	3.00%	6.00%
2	2.75	5.75
3	2.50	5.50
4	2.00	5.00
5-6	1.75	4.75
7	1.50	4.50
8-9	1.25	4.25
10-14	1.00	4.00
15-19	0.75	3.75
20-24	0.50	3.50
25+	0.00	3.00

- c. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

5. Demographic Assumptions

a. Retirement Rates

	Expected Retirements per 100 Lives			
	Group A & B Members		Group D Members	
Age	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)
45-49	15	12	0	0
50-54	12	12	3	3
55	12	12	4	4
56	12	12	5	5
57	12	12	6	6
58	12	12	7	7
59	12	12	8	8
60	14	14	10	10
61	16	16	13	13
62	25	20	35	35
63	25	18	25	18
64	18	20	18	20
65	20	20	20	20
66-69	20	19	20	19
70-74	20	19	20	19
75+	100	100	100	100

b. DROP Participation

90% of eligible members are assumed to enter DROP at first eligibility.

c. DROP Entry Date

Active members (not already in DROP) are assumed to take advantage of the DROP and enter when first eligible. For members who have already entered DROP, the actual DROP entry date supplied in the data is used.

d. DROP Interest Credit

4.25% per year

e. DROP Payout

It is assumed members with DROP balances will take their DROP balance in 6 equal annual installments beginning the year after retirement. Members currently retired with DROP balances are assumed to take 6 equal annual installments from the valuation date.

f. Mortality rates (for active and retired members)

- Healthy males – Based on the Retired Pensioners 2000 Mortality Table (combined) for males. Rates are scaled by 110%.
- Healthy females - Based on the Retired Pensioners 2000 Mortality Table (combined) for females. Rates are scaled by 95%.
- Disabled males and females – 1965 Railroad Retirement Board Disabled Life Table. Rates are set-back two years for males and eight years for females.

Sample rates are shown below:

Expected Deaths per 100 Lives				
Age	Healthy Males	Healthy Females	Disabled Males	Disabled Females
(1)	(2)	(3)	(4)	(5)
25	0.04	0.02	4.41	4.41
30	0.05	0.03	4.41	4.41
35	0.09	0.05	4.41	4.41
40	0.12	0.07	4.41	4.41
45	0.17	0.11	4.42	4.41
50	0.24	0.16	4.48	4.42
55	0.40	0.26	4.67	4.46
60	0.74	0.48	5.09	4.62
65	1.40	0.92	5.76	4.98
70	2.44	1.59	6.84	5.60
75	4.16	2.67	8.62	6.58
80	7.08	4.36	11.40	8.21

For pre-retirement mortality, 90% of the rates shown above are assumed to be for non-service related deaths and 10% for service related deaths.

g. Termination Rates and Disability Rates

Termination rates (for causes other than death, disability or retirement):

Termination rates are a function of the member's age and service. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates at selected ages are shown below.

Probability of Decrement Due to Withdrawal – Male Members

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
20	0.3244	0.2682	0.2300	0.2060	0.1926	0.1824	0.1617	0.1507	0.1400	0.1278	0.1639
30	0.2585	0.2146	0.1808	0.1563	0.1396	0.1275	0.1143	0.1057	0.0985	0.0919	0.0946
40	0.2003	0.1645	0.1351	0.1124	0.0954	0.0832	0.0750	0.0683	0.0634	0.0603	0.0427
50	0.1559	0.1258	0.1013	0.0824	0.0681	0.0577	0.0510	0.0454	0.0411	0.0383	0.0206
60	0.1341	0.1083	0.0887	0.0740	0.0634	0.0557	0.0469	0.0407	0.0344	0.0277	0.0199

Probability of Decrement Due to Withdrawal – Female Members

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
20	0.2811	0.2574	0.2344	0.2123	0.1912	0.1711	0.1506	0.1282	0.1040	0.0784	0.1385
30	0.2155	0.1943	0.1736	0.1539	0.1356	0.1188	0.1032	0.0879	0.0730	0.0585	0.0795
40	0.1688	0.1460	0.1250	0.1063	0.0903	0.0770	0.0664	0.0581	0.0517	0.0472	0.0367
50	0.1510	0.1223	0.0984	0.0791	0.0645	0.0544	0.0481	0.0452	0.0453	0.0481	0.0339
60	0.1794	0.1373	0.1049	0.0812	0.0653	0.0570	0.0540	0.0552	0.0601	0.0682	0.0339

Base Rates of Disability

Age	Males	Females
20	.00000	.00001
25	.00006	.00002
30	.00050	.00008
35	.00219	.00013
40	.00448	.00029
45	.00868	.00066
50	.01514	.00157
55	.02187	.00253
60	.02888	.00304

Rates of disability are reduced to zero once a member becomes eligible for retirement.

Rates of decrement due to Ordinary Disabilities are assumed to be 120% of the base rates shown above. Rates of decrement due to Service Related Disabilities are assumed to be 10% of the base rates shown above.

6. Other Assumptions

- a. Percent married: 70% of employees are assumed to be married. (No beneficiaries other than the spouse assumed)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. There will be no recoveries once disabled.
- f. No surviving spouse will remarry and there will be no children's benefit.
- g. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.
- h. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
- i. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
- j. Decrement timing: Decrements of all types are assumed to occur mid-year.
- k. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- l. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
- m. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll

shown in this report, and the actual payroll payable at the time contributions are made.

- n. Benefit Service: All members are assumed to accrue 1 year of service each year. Exact fractional service is used to determine the amount of benefit payable.

## 7. Participant Data

Participant data was supplied on electronic files. There were separate files for (i) active members, (ii) inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, sex, most recent hire date, salary paid during last fiscal year, hours worked by the employee, and employee contribution amounts. For retired members and beneficiaries, the data included date of birth, sex, amount of monthly benefit, and date of retirement. Also included was the member's Group and for members participating in DROP, their account balances and monthly DROP income.

All healthy and disabled retirees are assumed to have 100% joint and survivor, prorated by the 70% marriage assumption and reflecting the 3 year spousal age differential. All non-children beneficiaries are assumed to have life only benefits and all children beneficiaries' annuities are assumed to stop at age 21.

Salary supplied for the current year was based on the earnings for the year preceding the valuation date. This salary was adjusted by the salary increase rate for one year. For members who worked less than 1900 hours but were not new entrants, the salary was annualized to 1900 hours.

In fiscal years when a 27<sup>th</sup> pay period occurs the individual pays for employees who were employed throughout the year will be adjusted by multiplying their reported pay by the ratio of 26/27. In years that have only 26 pay periods no adjustment would be needed.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

## 8. Group Transfers

We assume no current Group B members will transfer to Group A.

## Summary of Plan Provisions

The provisions summarized in this section apply to persons who are members (active employees). Former members may have been covered under different plan provisions, depending on their dates of separation from service.

### 1. Covered Members

Any person who is a participant of Group A, under the original act.

Persons who became employees of the City of Houston after September 1, 1981 and prior to September 1, 1999, and elected officials of the City of Houston who assumed office after September 1, 1981 and prior to September 1, 1999, participate in Group B, but may make an irrevocable election to participate in Group A instead.

Persons who become employees of the City and persons who are elected as City officials after September 1, 1999 and prior to January 1, 2008 become members of Group A. Certain persons who were or became a Director of a City Department, Chief Financial Executive, or Executive Director of HMEPS on or after September 1, 1999 and prior to January 1, 2005 participate in Group C. Effective January 1, 2005, all Group C participation ceased and all Group C participants became Group A participants. Accruals earned by Group C participants prior to January 1, 2005 are retained, but all future accruals are based on the Group A formulas.

All future references to Group C participants in this appendix are intended to reflect this change in the Group C status.

Covered employees newly hired on or after January 1, 2008 will be members of Group D.

A former employee who is rehired on or after January 1, 2008 is a member of the group in which such employee participated at the time of his/her immediately preceding separation from service.

### 2. Monthly Final Average Salary (FAS)

The sum of the seventy-eight highest biweekly salaries paid to a member during his period of credited service, divided by thirty-six. Salary includes base pay, longevity pay, and any shift differential pay.

### 3. Credited Service

All services and work performed by an employee, including prior service. For members of Group A and former Group C, all services and work performed after September 1, 1943

must have been accompanied by corresponding contributions to HMEPS by the employee or legally authorized repayments must have been made.

Credited service for former participants in Group C means the number of years of eligible service after the executive official's effective date of participation in Group C. A former Group C member receives two times the number of actual years of credited service in Group C solely for the purpose of fulfilling the eligibility requirements in Group C.

4. Normal Retirement

- a. Eligibility Prior to January 1, 2005 (with 68 points as of January 1, 2005):

The earliest of:

age 62 and 5 years of Credited Service

5 years of Credited Service, and age plus years of Credited Service equal 70 or more

age 65 (Group C only)

On or after January 1, 2005 (less than 68 points as of January 1, 2005):

The earliest of:

age 62 and 5 years of Credited Service

5 years of Credited Service, and age plus years of Credited Service equal 75 or more with minimum age 50

For employees newly hired on or after January 1, 2008 (Group D):

Age 62 and 5 years of Credited Service

- b. Benefit Prior to January 1, 2005:

Group A: 3.25% of FAS for each of the first 10 years of Credited Service plus 3.50% for Credited Service greater than 10 years but less than 20 years plus 4.25% for FAS for each year of Credited Service greater than 20 years (excludes current DROP participants). Maximum benefit is 90% of FAS for all future retirees.

Group B: 1.75% of FAS for each of the first 10 years of Credited Service plus 2.00% of FAS for each year of Credited Service from 10 through 20, and 2.75% of FAS for each year of Credited Service over 20. Maximum benefit is 90% of FAS for all future retirees.

Group C: Double the rate for Group A

All accruals after January 1, 2005:

All accruals under the prior multipliers were frozen as of January 1, 2005 and the following benefit multipliers apply to service after that date:

Group A: 2.50% of FAS for each of the first 20 years of Credited Service plus 3.25% of FAS for each year Credited Service greater than 20 years. Maximum benefit is 90% of FAS for all future retirees.

Group B: 1.75% of FAS for each of the first 10 years of Credited Service plus 2.00% of FAS for each year of Credited Service from 10 through 20, and 2.50% of FAS for each year of Credited Service over 20. Maximum benefit is 90% of FAS for all future retirees.

Group D: 1.80% of FAS for each of the first 25 years of Credited Service, and 1.00% of FAS for each year of Credited Service over 25. Maximum benefit is 90% of FAS for all future retirees.

5. Vested Pension

a. Eligibility 5 years of Credited Service.

b. Benefit Group A and Group C: Either the accrued normal retirement benefit with payments beginning at the normal retirement eligibility date or a refund of employee contributions, if any, without interest.

Group B and Group D: Accrued normal retirement benefit payable at the normal retirement eligibility date.

If the actuarial present value of a pension is less than \$20,000, a terminated participant who is not eligible to begin receiving a pension may request an early lump sum distribution of the pension. Such early lump sum distribution is irrevocable. Credited Service associated therewith can be reinstated after reemployment and pursuant to the rules of the plan.

6. Withdrawal Benefit

If a nonvested member withdraws from service with less than 5 years, a refund of the member's contributions is made without interest, upon request.

7. Service-Connected Disability Retirement

- a. Eligibility Any age
  
- b. Benefit Group A: Accrued normal retirement benefit, but not less than 20% of final monthly salary at time of disability plus 1% of final monthly salary per year of Credited Service, to a maximum of 40% of final monthly salary.  
  
Group B and Group D: Accrued normal retirement benefit, but not less than 20% of final monthly salary at time of disability.

8. Non-service-Connected Disability Retirement

- a. Eligibility 5 years of Credited Service.
  
- b. Benefit Accrued normal retirement benefit payable immediately.

9. Pre-retirement Survivor Benefits

A. Service-connected

- a. Eligibility Any age or Credited Service
  
- b. Benefit If there is a surviving spouse, 100% of FAS payable to the spouse. 10% of FAS is payable to each qualifying dependent to a maximum of 20% for all dependents. Surviving spouse's benefit will be reduced by the amount of dependent benefits. If no surviving spouse, dependent benefits are 50% of the amount a surviving spouse would have received for each dependent to a maximum of 100% for all dependents in the aggregate.

B. Non service-connected

- a. Eligibility 5 years of Credited Service
  
- b. Benefit Benefits for survivorship and terminated vested Group D members after January 1, 2008:  
  
If there is a surviving spouse, 50% of accrued normal retirement benefit payable to the spouse plus 10% of accrued normal

retirement benefit to each qualifying dependent to a maximum of 20% for all dependents. If there is no surviving spouse, dependent benefits are doubled.

For all other Groups on or after August 1, 2001:

If there is a surviving spouse, 100% of accrued normal retirement benefit payable to the spouse and 10% of accrued normal retirement benefit to each qualifying dependent to a maximum of 20% for all dependents in the aggregate. The surviving spouse's benefit will be reduced by dependent benefits, if any. If there is no surviving spouse, each dependent will receive 50% of the benefit a surviving spouse would have received subject to a maximum of 100% of a surviving spouse's benefit for all dependents in the aggregate.

10. Postretirement Survivor Benefits

All Groups except Group D members:

If there is a surviving spouse, 100% of the retirement benefit the deceased retiree was receiving at the time of death payable to the spouse and 10% of that retirement benefit payable to each qualifying dependent to a maximum of 20% for all dependents. The surviving spouse's benefit will be reduced by dependent benefits, if any. If there is no surviving spouse, each dependent will receive 50% of the benefit a surviving spouse would have received subject to 100% of a surviving spouse's benefit for all dependents in the aggregate.

Group D members:

Life only to the retiree. Group D members may elect other options based on actuarial factors.

11. Benefit Adjustments

Before January 1, 2005:

Each year, effective February 1, monthly benefits will be increased 4.0%, not compounded, for all retirees and survivors whose benefit was effective on or before January 1 of the current year.

On or after January 1, 2005:

Each year, effective February 1, monthly benefits will be increased 3.0%, not compounded, for all retirees and survivors. This will

affect all members currently in payment status and members who enter payment status in the future. For members hired on or after January 1, 2005 future increases will be 2.0%, not compounded. However, pre-2005 retirees who are rehired will receive a 3% COLA on their subsequent benefit instead.

Group D Members:

None assumed. Group D members may elect an actuarially equivalent optional form of payment with a COLA feature.

12. Contribution Rates.

- a. Members 5% of salary only for Group A members. None for Group B or Group D members.
- b. City Beginning in 1993, the rate required to fund the Retirement Fund on an actuarial reserve basis. However, effective September 1, 1999, the minimum contribution rate is equal to the greater of 10% of covered payroll or twice the contribution rate a Group A member is required to make by statute. As negotiated in the meet and confer agreement, the city contributions will be \$69 million for FY2006, \$72 million for FY2007, \$75 million for FY2008, \$78.5 million for FY2009, \$83.5 million for FY2010, and \$88.5 million for FY2011.

13. Deferred Retirement Option

- a. Eligibility Participants (other than Group D) who are eligible to retire but who have not retired and who remain in service with the City may participate in the DROP.
- b. Monthly DROP  
Credit An amount equal to the accrued normal retirement benefit as of the effective date of DROP participation. The Monthly DROP Credit is credited to a notional account (DROP Account) on the last calendar day each month.
- c. DROP Credits-  
Interest Interest is credited to the DROP Account at the beginning of each day based on the DROP Account balance at the end of the previous day and posted monthly on the last calendar day of each month. Effective January 1, 2005, the annual interest rate effective

beginning January 1 each year is half of HMEPS' investment return percentage for the prior fiscal year, not less than 2.5% and not greater than 7.5%.

d. DROP Credits-

COLA On or after January 1, 2005:

The Monthly DROP Credit for participants who entered the DROP effective on or before January 1 of the then current year will be increased effective February 1 each year by 3.0%, not compounded.

The Monthly DROP Credit for participants who were first hired on or after January 1, 2005 who entered the DROP effective on or before January 1 of the then current year will be increased effective February 1 each year by 2.0%, not compounded.

e. DROP Account

Balance The sum of a participant's Monthly DROP (DROP Benefit) Credits, Monthly DROP Credit Adjustments, applicable interest, and employee contributions as applicable.

14. DROP Benefit Pay-out A terminated DROP participant may elect to:
- a. Receive the entire DROP Account Balance in a lump sum.
  - b. Receive the DROP Account Balance in periodic payments as approved by the Pension Board.
  - c. Receive a portion of the DROP Account balance in a lump sum and the remainder in periodic payments as approved by the Pension Board.
  - d. Receive a partial payment of not less than \$1,000, no more than once each six months.
  - e. Defer election of a payout option until a future date.
15. Post DROP Retirement The Final Pension is the accrued normal retirement benefit as of the effective date of DROP participation, increased with COLAs since DROP entry.

**Changes in Plan Provisions Since Prior Year**

None.