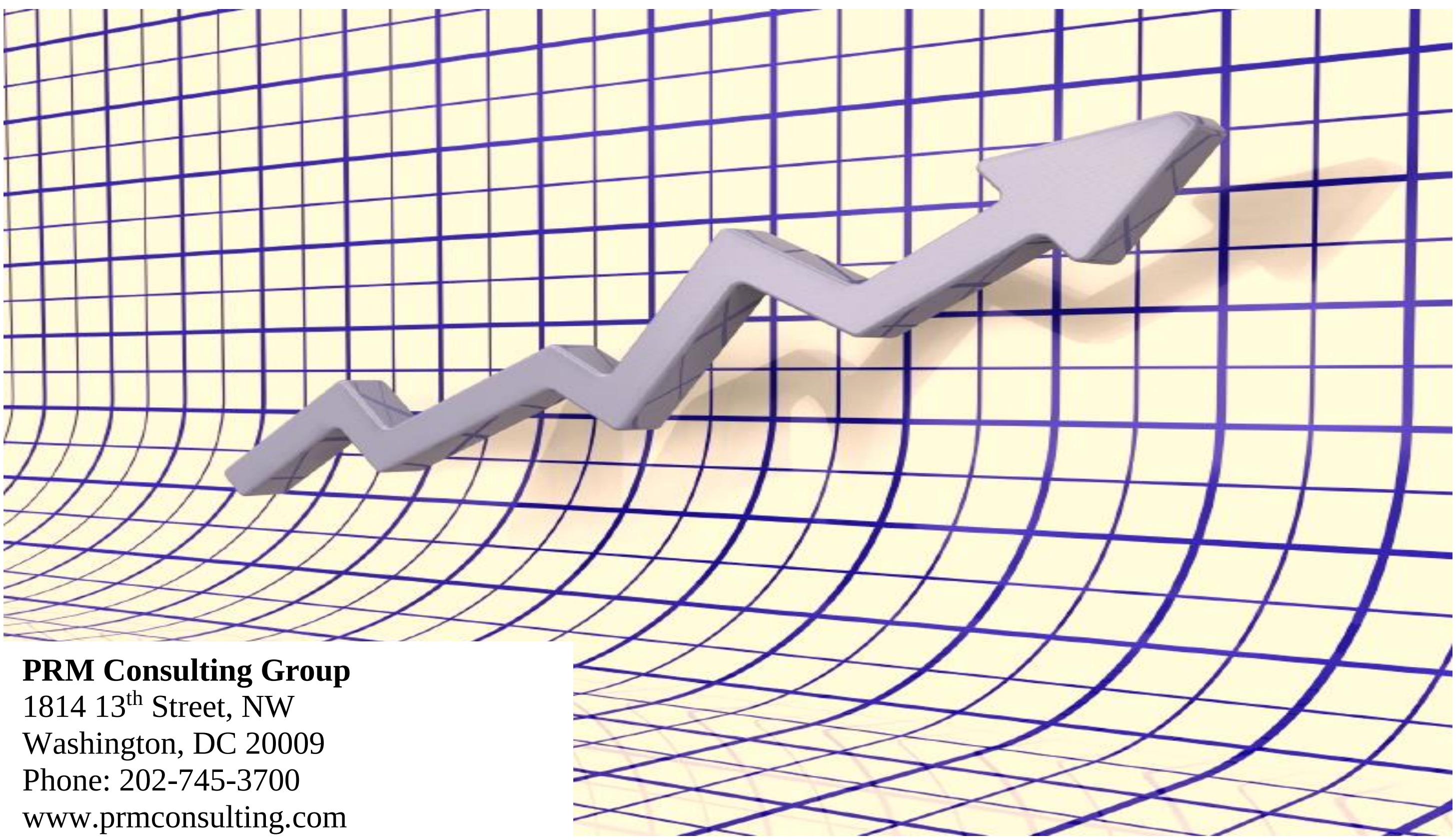
ACTUARIAL VALUATION OF POSTRETIREMENT LIFE & HEALTH PLANS

District of Columbia
Office of the Chief Financial Officer
Contract #: CFOPD-13-C-017

March 2016



PRM Consulting Group
1814 13th Street, NW
Washington, DC 20009
Phone: 202-745-3700
www.prmconsulting.com

Contents Page

SECTION 1 - Executive Summary

PRM Consulting Group ("PRM") has been retained by the District of Columbia (the "District") to perform an actuarial valuation of the District of Columbia Annuitants' Health and Life Insurance Employer Contribution Plan (the "Plan") as of September 30, 2014. The purpose of the valuation is to provide an estimate of the actuarial accrued liabilities of the Plan and the Annual Required Contribution in accordance with the Statements of the Governmental Accounting Standards Board (GASB) numbered 43 and 45. Use of the valuation results for other purposes may not be appropriate.

A summary of key valuation results for the current and prior year are shown as follows:

	September 30, 2014	Based on Roll-Forward of 9/30/2012 Valuation	
Valuation Date		September 30, 2014	September 30, 2013
Actuarial Accrued Liability ($000s)	$909,501	$1,188,300	$1,048,000
Value of Plan Assets ($000s)	$1,051,359	$1,036,600	$897,800
Unfunded Actuarial Accrued Liability ($000s)	($141,858)	$151,700	$150.200

The Annual Required Contribution (ARC) and Net OPEB Obligation for financial statement reporting for the current and prior fiscal years are shown as follows:

Fiscal Year Ending	September 30, 2015	September 30, 2014
Annual Required Contribution (ARC) ($000s)	$ 91,400	$ 86,600
Net OPEB Obligation ($000s)	$ 10,008	$ 9,924

Our valuation report provides further detail regarding the valuation results and describes the models and actuarial assumptions used to determine the valuation results. Specifically, the following information is provided:

- A description of the requirements of the Statement of the GASB No. 45, including a discussion of the components of Plan costs and liabilities that must be reflected in the District's Consolidated Annual Financial Report (CAFR);

- A reconciliation of plan asset activity over the fiscal year;

- A presentation of detailed valuation results, shown separately for the four component groups (Fire, Police, Teachers and General Employees), as well as in total for all groups.

- A summary of actuarial assumptions used in the valuation, including assumptions regarding general inflation, medical inflation, mortality, retirement, disability, termination of service, salary increase, plan participation, etc. PRM evaluated and reviewed this assumption set and received its approval by representatives of the District Office of the Chief Financial Officer (DC OCFO) as part of the valuation project;

- The participation assumption was changed effective with the 2014 valuation based on analysis and consideration with representatives of the DC OCFO. As discussed in Section 5 of this report, the number of current retirees under the OPEB plan is quite small due to the fact that the benefit is only available to retirees who were hired by the District after September 30, 1987. Since there is not substantial participation experience currently, the participation assumption chosen for the 2014 valuation purposely contains a large margin when compared to current actual rates of participation. The District has undertaken significant efforts to track actual rates of participation in the future and will continue to compile participation data so that updated analyses of participation rates can be made as part of future valuations. Thus, as the population of eligible retirees continues to increase and mature, data will exist so that the assumed rates of OPEB plan participation can be verified or adjusted (as needed) in future actuarial valuations.

- A presentation of Plan CAFR disclosure information, including the development of the ARC, Schedule of Funding Progress, Schedule of Employer Contributions and the development of the Annual OPEB Cost (AOC) and Net OPEB Obligation, and other disclosure items;

- A summary of the principal Plan Provisions that were valued as part of the valuation. Prior to completion of the valuation, this Summary was shared with and approved by the District Human Resources office to ensure that the Plan features had been identified correctly.

- A summary of the participant data used in the valuation. Data was received from a number of sources, including the District Human Resources Department and the District of Columbia Retirement Board. We did not perform a detailed audit or reconciliation of participant data. We did, however, review the data to ensure that it was reasonable and appropriate for use in the valuation.

Timing of Valuation/Measurement versus Dates of Disclosure

In order to accommodate the needs of the District with respect to budgeting, the valuation results obtained from the September 30, 2014 valuation will first be used to compute the ARC and other GASB disclosure items in the 2015-2016 fiscal year. The disclosure information for the 2014-2015 fiscal year will be based on a roll-forward valuation of the results obtained from the valuation measurement performed as of the beginning of the 2012-2013 fiscal year. This time lag is used to better coordinate the District budget timing with the timing for publication of valuation results

While the GASB disclosure items included in this report are based on a roll-forward of the prior valuation results, the key results of the 2014 valuation are included in this report also.

Comparison of Results to Prior Valuation

For the 2014 valuation, plan liabilities are significantly less than those computed as part of the prior valuation. As described above, the effect of these changes in plan liabilities will first be reflected in the GASB disclosure information for the 2015-2016 fiscal year.

The major change in the 2014 valuation that caused a reduction in plan liabilities was a change in the assumed rate of participation among retiring employees. This assumption was changed based on examination of historical retiree data regarding the actual election rate for the District retiree medical plan. Other changes in actuarial assumptions were made as well, as described in Section 6 of this report.

A full description of the current plan provisions is contained in Section 7 of this report, and a full description of the actuarial assumptions used in the 2014 valuation is contained in Section 6 of this report.

Excise Tax

The Patient Protection and Affordable Care Act (the ACA), which made sweeping reforms to health care coverage access, originally included a 40 percent per year Excise Tax on health coverage providers beginning in 2018 to the extent that the aggregate value of employer-sponsored health coverage for an employee exceeds a threshold amount. The Excise Tax applies to all employer-sponsored group health plans, including governmental plans. Legislation was passed in October 2015 which delayed the application of the Excise Tax until 2020. Final regulatory or other official guidance regarding the calculation and application of the Excise Tax has not yet been issued, and thus future guidance could significantly alter the conclusions discussed herein. The original threshold dollar limits, which were to be effective in 2018, are:

- $10,200 for an employee with self-only coverage, and
- $27,500 for all other coverages (e.g., employee and spouse, family)

Certain adjustments are allowed for these thresholds, including inflation adjustments that can occur if inflation exceeds expected levels prior to 2018, and adjustments are allowed for non-Medicare retirees as well as high-risk occupations such as fire and police. Based on IRS notice 2015-52, an additional demographic adjustment factor (which compares the age/gender composition of the employer with the National workforce) may further increase the thresholds. As part of the October, 2015 legislation that deferred application of the Excise Tax until 2020, a Government Accountability Office (GAO) study was commissioned to examine and make recommendations regarding the application of demographic adjustment factors.

As part of our 2014 valuation, we performed a quantitative analysis to assess if or when the Excise Tax might apply to the Plan, as the Excise Tax was designed prior to the 2015 legislation. To make this analysis, we projected the most expensive and least expensive plans based on aggregate costs into the future using the same trend rate in this report and inflation averaged over the last 5 years. The results of this analysis were that the Excise Tax can apply to the most expensive plan (Aetna PPO) as early as 2018 for family coverage and as early as 2020 for single coverage. For the least expensive plan (Aetna CDHP) the Excise tax may apply as late as 2034 for family coverage and as late as 2037 for single coverage.

Due to the lack of specific guidance as to how the Excise Tax is to be applied, and further due to the fact that the application of the tax has been deferred and will be changed based on the GAO study, particularly with respect to plans covering retirees, no specific provision was made in our 2014 valuation regarding Plan liabilities for the Excise Tax. Obviously, if the Excise Tax were to apply, the costs associated with the Plan would be inefficient from the perspective of both the District and the retiree, and Plan participation rates may be affected. Thus, it is likely that the actuarial liability associated with any increases in future Plan costs due to the application of the Excise Tax would be more than offset by changes in such liabilities due to decreases in the future Plan participation rates.

As guidance is forthcoming over the next several years regarding specifics the Excise Tax application, the design of the Plan and future valuations of Plan liabilities will need to be adjusted to reflect such guidance. In the meantime, we have included this discussion of our current analysis regarding the Excise Tax in an effort to highlight the risk to the Plan and the District of this provision of the ACA.

Actuarial Certification

This valuation has been conducted in accordance with generally accepted actuarial principles and practices.

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results. The reason for this is that the selection of the best estimate assumption requires professional judgment from the actuary. Thus, reasonable results differing from those presented in this report could have been developed by another actuary.

The actuaries certifying to this valuation are members of the Society of Actuaries and other professional actuarial organizations, and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion. They are available to answer questions or to provide further information regarding the contents of this report.

Respectfully submitted,

Robert Sanford, FSA, MAAA, EA
PRM Consulting Group, Inc.
March 2016

Adam J. Reese, FSA, MAAA, EA
PRM Consulting Group, Inc.
March 2016

Mark Knecht, ASA, MAAA, EA
PRM Consulting Group, Inc.
March 2016

SECTION 2 - DESCRIPTION OF GASB 45

Governmental Accounting Standards Board (GASB)

In June, 2004, the Governmental Accounting Standards Board (GASB) issued its long-awaited standard on *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions* (OPEBs).

The standard covers both post-retirement and post-employment benefits. The types of benefits covered include:

- Medical
- Dental
- Vision
- Hearing
- Life insurance
- Long term disability
- Long term care

However, if any of these benefits are provided through a pension plan they would be accounted for under GASB 67 — otherwise they will be accounted for under GASB 45.

The effective date for the standard depended on the size of the employer. For entities with revenues in FY 2000 over $100 million, the effective date was the fiscal year beginning after December 15, 2006. The District adopted the standard with the FY 2008 financial reporting year beginning October 1, 2007.

The purpose of the standard is to treat post-retirement benefits in a manner similar to pensions. Governmental employers should recognize that OPEBs constitute compensation for employee service and they should recognize the cost of benefits during the periods when employee service is rendered. GASB believes that appropriate accrual accounting for OPEBs will improve the relevance and usefulness of financial reporting, provide information about the size of the liabilities and the extent to which they are funded, and ensure systematic accrual-basis measurement over employee service.

While the standard requires governmental employers to adopt accrual accounting, the standard sets out a broad range of options for employers. These options include the ability to choose, within limits, the:

- Actuarial cost method;
- Period for amortizing the unfunded actuarial accrued liability;
- Measurement date; and
- Frequency of valuations.

The most common and most expensive of the OPEBs are retiree medical benefits, which provide a valuable component in employees' retirement benefits program. Most governmental employers fund their retiree medical plans on a pay-as-you-go (PAYG) basis. The GASB standard does not require employers to advance fund these benefits. However, certain aspects of the measurement do provide benefits for employers that choose to advance fund the OPEB liability.

Actuarial Cost Method

A fundamental principle in financing the liabilities of any retirement program is that the cost of the benefits should be related to the period during which benefits are earned, rather than to the period of benefit distribution. There are several acceptable actuarial methods prescribed by the GASB standard as acceptable. The District has selected the Entry Age Normal (EAN) method.

The Entry Age Normal actuarial cost method was used to value the plan's actuarial liability and to set the normal cost. Under this method, the normal cost rate is the level percentage of pay contribution which would be sufficient to fund the plan benefit if it were paid from each member's date of hire until termination or retirement.

Actuarial Accrued Liability

The actuarial accrued liability is that portion of the present value of projected benefits which has been accrued during the employee's working life from the date of hire to the valuation date. Another way of viewing this liability is as the portion of the present value of projected benefits that will not be funded by future normal costs. Therefore, as long as participants have no past service credit (as is assumed in this case), there is no actuarial liability for a new entrant. Furthermore, the full present value of benefits is accrued by the end of each employee's working life.

The difference between the actuarial accrued liability and the funds accumulated as of the valuation date is referred to as the unfunded actuarial accrued liability. Unfunded actuarial accrued liabilities generally exist when (1) the liabilities are not funded, (2) benefits have been earned for periods in which no normal cost has been paid or (3) the amounts that have been funded were inadequate because of losses, changes in assumptions, changes in the funding method, or benefit improvements. The unfunded actuarial accrued liability equals the actuarial accrued liability less the value of the fund.

Development of the Normal Cost

The normal cost represents the benefits earned during the current reporting period. As stated in the previous section, the Entry Age Normal actuarial cost method is used in determining the normal cost.

Funding Policy

With adoption of GASB 45, the District established a restricted trust and began making payments to the trust. Since adoption of GASB 45 the District has contributed 99% of the Annual Required Contribution, including the contribution made for FYE 2014. The District government intends to fully fund the ARC with annual appropriations.

Discount Rate

The valuation results are dependent on the discount rate. GASB 45 specifies that the assumed discount rate should be based on the rate of return expected to be earned by the assets used to pay the benefits. The District has established a trust, where current annual funding to the trust far exceeds benefit payments made from the trust. With assets of approximately $1.05 billion invested in a diversified portfolio, the District expects the trust assets to be used to pay all benefits in the future. The valuation used in the 2012 valuation of the plan was 7 percent. Since the expense and disclosure information used for the 2014-2015 fiscal year is based on a roll-forward of the 2012 valuation, the discount rate for such disclosures is 7 percent. For the liability measurement as of September 30, 2014, which will first be used to establish expense and disclosure information for the 2015-2016 fiscal year, the discount rate used is 6.5%, representing a 50 basis point reduction in the prior discount rate.

Recent Update to GASB 45

In June, 2015, the Government Accounting Standards Board issued Statement 75 (GASB 75), which will replace GASB 45 effective for the 2017-2018 fiscal year. The revised standard is more restrictive than GASB 45 with respect to choice in actuarial cost method and interest rates for discounting plan liabilities. Also, disclosures under GASB 75 are somewhat different than those under GASB 45.

The District OPEB plan valuations currently use the entry age normal cost method, which is the method prescribed for use by all plans under GASB 75. Also, since the District OPEB plan is funded on a basis such that 100% of future benefit payments to participants are met by plan assets, the interest rate prescribed for use under GASB 75 for discounting future plan liabilities is consistent with the interest rate currently used for the District plan.

SECTION 3 – PLAN ASSETS

Table 3.1 shows the development of plan assets over the 2013-2014 plan year.

Table 3.1
Reconciliation of Plan Assets for the 2013-2014 fiscal year (000s)

1.	Beginning Market Value, 10/1/2013	$897,815
2.	Employer Contributions	$86,600
3.	Participant Contributions	$303
4.	Interest, Dividends and other investment income	$17,848
5.	Net appreciation on plan assets	$59,224
6.	Investment Expense	-$5,339
7.	Benefit Payments	-$4,729
8.	Administrative Expense	-$363
9.	Ending Market Value, 09/30/2014	$1,051,359
10.	Estimated Rate of Return, net of Investment Expense*	8.01%

*Assumes Employer contributions paid at end of fiscal year, with employee contributions, benefit payments and administrative expense paid uniformly throughout the year

Note that the GASB disclosure information as of September 30, 2014 shows an asset level of $1,036,600. This amount is used for the current fiscal year GASB disclosures, and as noted earlier, is an estimated asset amount based on a roll-forward of the prior year's valuation results.

SECTION 4 - Financial Accounting Information

In addition to establishing the Annual Required Contribution (ARC), this report shows the progress toward funding of the plan benefits. This section includes a schedule of the funding progress, which is a statement of disclosure to report the Required Supplementary Information in compliance with Governmental Accounting Standards Board (GASB) Statement No. 43.

Also included is a schedule of employer contributions. This schedule compares the expected contribution to the plan with the Annual Required Contribution. Since there is a lag-period between the determination of the ARC and the determination of the amounts actually funded, the tables show estimated amounts based on the funding policy as of the measurement date.

GASB 45 accounting standard sets out the requirements for governmental employers to determine the Annual Required Contribution for the postretirement benefit plan costs. GASB 43 sets out the required disclosures for the plans.

The following tables have been prepared as of the measurement date and include historical information from the District's financial reports.

GASB 43 Disclosures

Table 4.1 shows the schedule of funding progress for the District. The District has made substantial progress in funding the obligation with the funded ratio increasing from 59.0% as of September 30, 2012 to 87.2% as of September 30, 2014.

Table 4.1
Schedule of Funding Progress for Fiscal Year Ending September 30, 2015
(dollars in millions)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Liability	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
	(a)	*(b)*	*(c) = (b-a)*	*(d) = (a)/(b)*	*(e)*	*(f) = (c) / (e)*
2007	$164.2	$600.1	$435.9	27.4%	$1,090.9	39.96%
2008	$219.7	$745.2	$525.5	29.5%	$1,107.1	47.47%
2009	$309.1	$625.9	$316.8	49.4%	$1,579.9	20.05%
2010	$424.3	$784.9	$360.6	54.1%	$1,544.5	23.35%
2011	$511.5	$866.6	$355.1	59.0%	$1,559.8	22.77%
2012	$693.3	$919.7	$226.4	75.4%	$1,399.1	16.18%
2013	$897.8	$1,048.0	$150.2	85.7%	$1,441.1*	10.42%
2014	$1,036.6	$1,188.3	$151.7	87.2%	$1,484.3*	10.22%

*Estimated to be 3% larger than prior valuation year

Table 4.2 shows the calculation Annual Required Contribution (ARC) for the FYE 2014 and FYE 2015.

Table 4.2 Development of the ARC ($millions)		
	FYE 2014	**FYE 2015**
Normal Cost	$77,600	$82,100
Amortization of Unfunded Actuarial Accrued Liability	$ 9,000	$ 9,300
Total	$86,600	$91,400

Table 4.3 shows the Schedule of Employer Contributions, which compares the annual ARC with the actual District contributions to the plan.

Table 4.3 Schedule of Employer Contributions (dollars in millions)			
Fiscal Year Ending Sep 30	**Annual Required Contribution**	**Employer Contribution**	**Percentage Contributed**
	(a)	**(b)**	**(c) = (b) / (a)**
2008	$103.40	$110.80	107.2%
2009	130.90	81.10	62.0%
2010	92.19	90.70	98.4%
2011	94.17	94.20	100.0%
2012	95.50	109.84	115.0%
2013	85.20	107.80	126.5%
2014	86.60	86.60	100.0%
2015	91.40	91.40	100.0%

Table 4.4 provides the development of the Net OPEB Obligation that has occurred since the adoption of the GASB standards for FYE 2008. Table 4.4 provides the actuarial information that will be included in the District's CAFR.

Table 4.4
Development of Net OPEB Obligation (Asset)
(dollars in millions)

Actuarial Valuation Date	ARC	Interest on Unfunded ARC	Adjustment of the ARC	Annual OPEB Cost	Actual Contribution	Increase (decrease) in OPEB obligation	Net OPEB obligation (asset) at end of year
	(a)	(b)	(c)	(d) = (a) + (b) + (c)	(e)	(f) = (d) – (e)	(g) = prior year (g) + (f)
9/30/2007	$103.4	$0.0	$0.0	$103.4	$110.8	($7.4)	($7.4)
9/30/2008	$130.9	($0.5)	$0.2	$130.6	$81.1	$49.5	$42.1
9/30/2009	$92.2	$3.1	($1.9)	$93.3	$90.7	$2.6	$44.7
9/30/2010	$94.2	$3.1	($2.2)	$95.1	$94.2	$0.9	$45.6
9/30/2011	$95.5	$3.2	($2.3)	$96.4	$109.8	($13.4)	$32.2
9/30/2012	$85.2	$2.2	($1.9)	$85.5	$107.8	($22.3)	$9.9
9/30/2013	$86.6	$.7	($.6)	$86.7	$86.6	$0.1	$10.0
9/30/2014	$91.4	$.7	($.7)	$91.4	$91.4	$0.0	$10.0

Finally, the following Table 4.5 includes a description of the primary assumptions and methods that were used in the valuation, to be included as part of the Required Supplementary Information in the District's CAFR:

Table 4.5 Summary of Principal Assumptions	
Valuation Date:	September 30, 2014
Actuarial Cost Method:	Entry Age Normal, Level Percentage of Pay
Amortization Method:	Level percentage of pay, closed
Amortization Period:	30 years beginning with FYE2013; 28 years for FYE2014
Asset Valuation Method:	Market Value
Actuarial Assumptions:	
Investment Return/Discount Rate:	7% per annum
Rate of Salary Increase:	3.75% (plus merit scale)
Rate of Medical Inflation:	Pre-Medicare: 8.0%, grading down to 4.0% Post-Medicare: 6.5%, grading down to 4.0% Both assumptions utilize the Society of Actuaries Getzen Medical Trend Model, and reach the ultimate medical inflation rate in 2099.

SECTION 5 - 2014 Valuation Results and Projections for Future Fiscal Years

Table 5.1 shows the AAL for actives and retirees, the normal cost, the assets and the resulting unfunded actuarial accrued liability (UAAL) as of September 30, 2014 (valuation date) at a 6.5% discount rate. Note that this development of the AAL and UAAL are based on the actual measurement at September 30, 2014, and will first be used for GASB disclosure for the 2015-2016 fiscal year.

The table shows the liability results for four separate populations:

- Firefighters
- Police
- Teachers, and
- General Employees

Table 5.1
Actuarial Accrued Liabilities & Plan Assets as of September 30, 2014
(in dollars)

AAL	Fire	Police	Teachers	General	Total
Active Employees	$ 96,065,567	$254,402,507	$84,802,244	$ 353,032,805	$788,303,123
Retired Employees	8,885,549	65,522,935	30,006,816	16,782,237	121,197,537
Total AAL	104,951,116	319,925,442	114,809,060	369,815,042	909,500,660
Plan Assets					1,051,359,000
UAAL					(141,858,340)
Normal Cost	$5,952,713	$12,736,726	$4,846,045	$15,277,961	$38,813,445

The Normal Cost and AAL have decreased substantially since the measurement of plan liabilities undertaken as of the last valuation date. The primary driver of the change in plan liabilities is due to a change in the assumed rate of plan participation for future retirees. This assumption was changed based on examination of historical retiree data regarding the actual election rate for the District retiree medical plan. The participation assumption has been reduced to an assumed rate of 70% participation for all employee groups.

The revised assumed participation rates remain significantly higher than participation rates currently experienced. These rates have deliberately been set to contain a substantial margin, as the population of eligible DC OPEB retirees is relatively immature since the plan is only available to employees hired on or after October 1, 1987. With the margin in the revised assumed participation rates, the plan remains in good financial position as the eligible retiree population matures in the future.

Other changes were made in actuarial assumptions since the prior valuation, as described in Section 6 of this report. Included in these changes were changes to the mortality rates assumed for plan participants, changes in assumed inflation and healthcare trend rates, and changes in assumed claims costs.

Table 5.2 shows a projection of future years' Actuarial Accrued Liability (AAL), Plan Assets, Unfunded AAL (UAAL), Funded Ratio and Annual Required Contribution (ARC) for FYEs 2016 through 2020, based on a projection of the September 30, 2014 valuation results. These projections are based on the adoption of a closed 20year amortization of the UAAL effective for FYE 2016.

Table 5.2
Projections of Actuarial Results ($ in 000s)

	Fiscal Year Ending September 30,				
	2016	**2017**	**2018**	**2019**	**2020**
AAL	$1,001,200	$1,098,500	$1,201,500	$1,309,800	$1,423,500
Plan Assets	$1,202,400	$1,298,100	$1,398,900	$1,504,500	$1,614,900
UAAL	($201,200)	($199,600)	($197,400)	($194,700)	($191,400)
Funded Ratio	120.1%	118.2%	116.4%	114.9%	113.4%
ARC	$29,000	$31,000	$33,200	$35,600	$38,200
Amortization Period for UAAL (Years)	20	19	18	17	16

Sensitivity

Table 5.3 illustrates the impact on the AAL of a 0.50% change in investment assumption and a 1.00% change in medical trend:

Table 5.3 Estimated Change in AAL due to Changes in Actuarial Assumptions (000s)					
		Impact of Change in Investment Return Assumption Only		Impact of Change in Medical Trend Only	
	Actual Valuation Results	0.50% Increase	0.50% Decrease	1.00% Increase	1.00% Decrease
AAL	$909,501	($74,919)	$84,464	$215,611	($164,431)

Projected Cash Flow

The following table presents a 30-year payout projection of employer payments for the District OPEB plan:

Table 5.4 Projected Cash Flow	
Fiscal Year Ending September 30,	Employer Payment
2015	8,500,000
2016	11,100.000
2017	14,200,000
2018	18,000,000
2019	22,300,000
2020	27,100,000
2021	32,200,000
2022	38,100,000
2023	44,400,000
2024	51,100,000
Table 5.4	

Projected Cash Flow	
Fiscal Year Ending September 30,	**Employer Payment**
2025	58,200,000
2026	65,500,000
2027	73,000,000
2028	80,400,000
2029	87,500,000
2030	95,000,000
2031	102,200,000
2032	108,600,000
2033	115,300,000
2034	122,900,000
2035	129,500,000
2036	135,800,000
2037	142,900,000
2038	150,200,000
2039	157,800,000
2040	165,500,000
2041	173,400,000
2042	181,200,000
2043	187,900,000
2044	194,000,000

SECTION 6 - Actuarial Assumptions

The selection of all actuarial assumptions used in valuing a post-retirement health care plan, including the health care cost trend rate, should be guided by Actuarial Standard of Practice No. 6, Measuring Retiree Group Benefit Obligations (as revised from time to time by the Actuarial Standards Board). Accordingly, actuarial assumptions should be based on the actual experience of the covered group, to the extent that credible experience data are available, but should emphasize expected long-term future trends rather than give undue weight to recent past experience. The reasonableness of each actuarial assumption should be considered independently based on its own merits, its consistency with each other assumption, and the combined impact of all the assumptions.

The actuarial assumptions used to value the post-retirement medical liabilities can be categorized into three groups: economic assumptions, healthcare cost assumptions, and demographic assumptions.

Economic Assumptions

The two economic assumptions used in the valuation are the discount rate and the health care cost trend rates. The economic assumptions are used to account for changes in the cost of benefits over time and to discount future benefit payments for the time value of money.

Discount Rate

The investment return assumption (discount rate) should be the estimated long-term investment yield on the investments that are expected to be used to finance the payments of benefits. These investments would be plan assets for funded plans, assets of the employer for pay-as-you-go plans, or a proportionate combination of the two for plans that are being partially funded.

The discount rate chosen for the September 30, 2014 valuation is 6.5%, which represents a .5% decrease from the prior valuation.

Health Care Cost Trend Rates

The medical trend assumptions used in the valuation were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model baseline assumptions. The SOA model was released in December 2007, and version 2014_b was used for the 2014 valuation.

The following assumptions were used as input variables into this model:

Actuarial Assumptions	
Variable	**Rate**
Rate of Inflation	2.75%
Rate of Growth in Real Income / GDP per capita 2025+	1.1%
Extra Trend due to Taste/Technology 2025+	1.0%
Expected Health Share of GDP 2020	18.7%
Health Share of GDP Resistance Point	20.0%
Year for Limiting Cost Growth to GDP Growth	2040

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group.

Table 6.1 shows the medical cost trends used in the valuation and are an output of the SOA Long-Run Medical Cost Trend Model, version 14_b. The set of health care trend rates has an initial health care cost trend rate of 7.2 percent and decline gradually, over 70 years, to an ultimate rate of 3.9 percent.

Table 6.1	
FYE	**Annual Trend PreMedicare**
2015	7.2%
2016	6.8%
2017	6.4%
2018	6.0%
2019	5.5%
2020	5.4%
2025	5.0%
2030	4.8%
2035	4.3%
2040	3.9%

Salary Increases and Inflation

The base inflation rate used in the valuation was 2.75%, plus a productivity increase of .75%. Merit and seniority increases are additional and are shown in Table 6.2 below.

Table 6.2 % Salary Increase			
Service	**Teachers**	**Police**	**Fire**
0	4.00	5.00	2.50
5	4.00	3.56	2.50
10	3.00	2.58	2.50
15	0.50	2.31	2.50
20	0.20	2.50	2.50
30	0.20	0.50	2.50

Healthcare Cost Assumptions

Table 6.3 shows the valuation assumptions used in the September 30, 2014 valuation. The table shows the total monthly health care cost by age, before taking into account any retiree premiums paid by the participants. The rates shown are used for both males and females, and represent a blended cost rate that reflects the distribution of the actual health care plans (i.e. Aetna PPO, Aetna CDHP, Aetna HMO, Kaiser and UHC) where the covered population is enrolled.

The medical costs reduce substantially at age 65 when retirees become eligible for Medicare and Medicare is primary for their covered medical services.

Table 6.3 Age-Specific Healthcare Costs	
	Monthly Cost
Retirees <65	
<30	$ 426
30-39	$ 447
40-44	$ 505
45-49	$ 584
50-54	$ 695
55-59	$ 844
60-64	$ 1,055
Retirees 65+	
65-69	$ 469
70-74	$ 517
75-79	$ 566
80+	$ 582

Demographic Assumptions

The demographic assumptions include the rate of mortality, the rate of withdrawal, the rate of retirement, and the rate of disability. Ancillary demographic assumptions include the age of female spouses, coverage rates, and participation rates. The complete set of demographic assumptions is shown below.

Preretirement Mortality Rates

The RP-2014 Healthy Employee Mortality Table with the MP-2014 Improvement Scale, fully generational, was used for General Employees and Teachers. For Police & Fire Employees, a combination of 50% of the RP-2014 Health Employee White Collar and 50% of the RP-2014 Healthy Employee Blue Collar Mortality Tables, both with the MP-2014 Improvement Scale fully generational, were used.

Postretirement Mortality Rates

The RP-2014 Healthy Annuitant Mortality Table with the MP-2014 Improvement Scale, fully generational, was used for General Employees and Teachers. For Police & Fire Employees, a combination of 50% of the RP-2014 Healthy Annuitant White Collar and 50% of the RP-2014 Healthy Annuitant Blue Collar Mortality Tables, both with the MP-2014 Improvement Scale fully generational, were used. For all disabled retirees, the RP-2014 Disabled Life Mortality Table was used.

Withdrawal Rates

The withdrawal rates for participants in each group vary by age and service with the District. Sample rates are shown in the tables below.

Table 6.4a Teachers/General			
Age	Years of Service		
	<4	4-9	10+
20	25.00%	20.00%	0.00%
25	23.50%	20.00%	0.00%
30	22.00%	16.00%	3.75%
35	20.50%	14.00%	3.75%
40	19.00%	12.00%	3.75%
45	17.50%	10.00%	3.75%
50	16.00%	10.00%	3.75%
55	14.50%	10.00%	3.75%
60	13.00%	10.00%	3.75%
65+	0.00%	0.00%	0.00%

Table 6.4b Police				
Age	Male		Female	
	<3 years of service	3+ years of service	<3 years of service	3+ years of service
20	10.00%	0.00%	10.00%	0.00%
25	10.00%	6.00%	10.00%	2.50%
30	10.00%	4.25%	10.00%	3.50%
35	10.00%	2.50%	10.00%	2.00%
40	10.00%	1.75%	10.00%	1.50%
45	10.00%	1.25%	10.00%	1.25%
50	10.00%	1.25%	10.00%	1.25%
55	10.00%	1.25%	10.00%	1.25%
60+	0.00%	0.00%	0.00%	0.00%

Table 6.4c Fire Fighters		
Age	< 2 years of service	2+ years of service
20	9.00%	3.50%
25	9.00%	3.50%
30	9.00%	2.00%
35	9.00%	1.00%
40	9.00%	1.00%
45	9.00%	1.50%
50	9.00%	1.50%
55	9.00%	0.00%

Disability Rates

The disability rates for each group vary by age. Sample rates are shown in the table below:

Table 6.5 Disability Rates				
	Teachers/ General	Police		Fire Fighters
Age	Unisex	Male	Female	Unisex
20	0.03%	0.02%	0.04%	0.01%
25	0.03%	0.05%	0.08%	0.02%
30	0.05%	0.10%	0.12%	0.15%
35	0.07%	0.22%	0.28%	0.20%
40	0.09%	0.25%	0.40%	0.35%
45	0.15%	0.30%	0.62%	0.45%
50	0.22%	0.40%	0.70%	0.52%
55	0.32%	0.60%	0.75%	0.60%
60	0.40%	0.80%	0.90%	0.70%
65	0.00%	0.00%	0.00%	0.00%

Retirement Rates

The retirement rates for each group vary by age and service with the District. Sample rates are shown in the tables below.

Table 6.6a General	
Age	**Rate**
62-64	50.0%
65+	100.0%

Table 6.6b Teachers		
Age	**<30 years of service**	**30+ years of service**
50-54	2.50%	2.50%
55-59	6.00%	33.00%
60-64	27.00%	25.00%
65-69	20.00%	25.00%
70-74	30.00%	30.00%
75+	100.00%	100.00%

Table 6.6c Police	
Service	**Rate**
20-24	0.0%
25-29	22.0%
30-34	15.0%
35+	20.0%
Minimum Retirement Age = 50	
100% of Police are assumed to retire at Age 65	

Table 6.6d Fire Fighters	
Service	**Rate**
25-29	12.5%
30	20.0%
31	30.0%
32+	40.0%
Minimum Retirement Age = 50	
100% of Fire Fighters are assumed to retire at Age 60	

Participation Rates for the Healthcare Benefit Plan--Participants

70 percent of participants, across all employee groups (i.e. Police, Fire, Teachers and General Employees) are assumed to elect the Healthcare Benefit Plan upon retirement.

Participation Rates for the Healthcare Benefit Plan--Spouses

70 percent of Police and Fire participant's spouses, 50 percent of male General participant's spouses, 25 percent of female General participant's spouses, 45 percent of male Teacher participant's spouses and 30 percent of female Teacher participant's spouses are assumed to elect the Healthcare Benefit Plan.

Spousal Age Assumption

Husbands are assumed to be 3 years older than wives.

Changes since the prior valuation

Several changes were made in the actuarial assumptions since the prior (2012) valuation, in order to more closely reflect anticipated experience under the plan. The assumptions used in the prior valuation, that were changed effective with the 2014 valuation, are described as follows:

Prior Discount Rate

7.0%

Prior Medical Trend

Table 6.7 shows the medical cost trends used in the 2012 valuation and are an output of the SOA Long-Run Medical Cost Trend Model, version 12.2. The set of health care trend rates has an initial health care cost trend rate of 8.0 percent for cost prior to Medicare eligibility and 6.5 percent for costs after Medicare eligibility. The rates decline gradually, over 70 years, to an ultimate rate of 4.0 percent.

Table 6.7
Health Care Cost Trend Rate

FYE	Annual Trend PreMedicare	Annual Trend PostMedicare
2013	8.0%	6.5%
2014	7.5%	6.0%
2015	7.0%	6.0%
2020	5.1%	5.1%
2030	4.9%	4.9%
2040	4.8%	4.8%
2050	4.7%	4.7%
2075	4.4%	4.4%

Prior Inflation

The base inflation rate used in the 2012 valuation was 3.00%.

Prior Monthly Healthcare Cost Rates

Table 6.8 table shows the 2012 total monthly health care cost by age, before taking into account any retiree premiums paid by the participants.

Table 6.8
Monthly Health Care Cost

Actives & Retirees <65	Aetna HMO		Aetna PPO		Kaiser		UHC POS		Aetna CDHP	
	M	F	M	F	M	F	M	F	M	F
<30	362	362	366	366	331	331	328	328	313	313
30-39	379	379	384	384	347	347	344	344	329	329
40-44	428	428	434	434	393	393	388	388	371	371
45-49	495	495	502	502	454	454	449	449	429	429
50-54	590	590	598	598	541	541	534	534	511	511
55-59	716	716	726	726	656	656	649	649	621	621
60-64	895	895	907	907	820	820	811	811	776	776
65+	1036	1036	1049	1049	949	949	938	938	898	898
Retirees >65										
65-69	439	439	444	444	402	402	397	397	380	380
70-74	484	484	490	490	444	444	439	439	420	420
75-79	529	529	536	536	485	485	480	480	459	459
80-84	544	544	552	552	499	499	493	493	472	472
85+	544	544	552	552	499	499	493	493	472	472

Prior Mortality Rates

The RP-2000 Mortality Table with Projection Scale AA projected to 2015 was used for the valuation, with a setback of 3 years for female General and Teacher participants and a set forward of 1 year for female Police and Fire participants.

Prior Participation Rates for the Healthcare Benefit Plan--Participants

95 percent of Police and Fire participants, 80 percent of General participants, and 75 percent of Teacher participants were assumed to elect the Healthcare Benefit Plan.

SECTION 7 - Summary of Plan Provisions

Eligibility: Employees hired after September 30, 1987 are eligible for post-retirement health and life insurance coverage if they have been continuously enrolled in a District health benefit plan for at least 5 years and they:

1. Are classified as a General Employee, are at least age 60, have at least 10 years of creditable District service, are covered under the District defined contribution program and have obtained a Social Security award letter (including disability); or

2. Have at least 10 years of creditable District service and retire under the Teachers' Retirement System, the Judges' Retirement System or the Teachers' Insurance and Annuity Association program; or

3. Retire under the Police Officers' & Firefighters' Retirement Plan with at least 10 years of creditable District service (5 years if hired before 11/10/1996)

Teachers, Police Officers and Firefighters become eligible for retirement in accordance with the following:

Eligibility				
Plan	**Criteria to qualify for retirement**			
	Unreduced		**Reduced**	
	Age	**Service**	**Age**	**Service**
Teachers (note: service must include 5 years of school service)	55*	30	50	20
	60	20	Any	25
	62	5		
Police & Firefighters – hired before 11/10/1996**	50	25	NA	NA
	60	5	NA	NA
Police & Firefighters – hired on or after 11/10/1996	Any	25	NA	NA
	60	None	NA	NA

*If hired on or after 11/1/1996, there is no age requirement if have 30 years of service
**If hired prior to 2/15/1980, retirement available after 20 year of service, regardless of age

Surviving spouses may continue healthcare coverage upon the retiree's death.

Plan of Benefits: Medical coverage is provided through one of five Plans, offered by either Aetna, Kaiser Permanente or United Healthcare. The plans that are available for active employees are available to retirees. There is no change in the plans available once a retiree reaches Medicare eligibility, although Medicare becomes primary once Medicare eligibility is reached. The principal benefit provisions of the available plans are summarized as follows:

	Plan of Benefits				
	Aetna CDHP	**Aetna PPO**	**Aetna HMO**	**Kaiser Permanente HMO**	**United Healthcare Choice**
Copay – Office Visits	NA	$15 Non-specialist; $30 Specialist (deductible waived)	$10 PCP; $20 Specialist	$10 PCP; $20 Specialist	$10 PCP; $20 Specialist
100% Coverage In-Network for Routine Physicals, Gynecology Exams and Child Well Exams?	Yes	Yes	Yes	No	No
Deductible	$1,300 individual/$2,600 family in-network	$750 individual/ $1,500 family in-network	None	None	None
Coinsurance	15%	15%	NA	NA	NA
Annual Maximum Out-of-Pocket	$6,450 individual/$12,900 Family	$1,500 individual/ $3,000 Family	$3,500 individual/ $9,400 Family	$3,500 individual/ $9,400 Family	$3,500 individual/ $9,400 Family
Out-of-Network Benefit	Deductibles are unchanged; 40% coinsurance	Deductibles, out-of-pockets are doubled; 25% coinsurance	None, other than ER	None, other than ER	None, other than ER
Hospital Inpatient Copay/Coinsurance	15% after deductible	0% after deductible	$100 Copay	$100 Copay	$100 Copay
Outpatient Surgery Copay/Coinsurance	15% after deductible	0% after deductible	$50 Copay	$50 Copay	$50 Copay
Emergency Room	15% after deductible	$100 Copay (waived if admitted)	$50 Copay	$50 Copay	$50 Copay
Outpatient Mental Health and Substance Abuse Copay	15% after deductible	0% after deductible (inpatient); $15 copy with deductible waived (outpatient)	$10 Visit	$10 Visit/ $5 Group visit	$10 Visit
Pharmacy copay (30-day supply)	Generic: $10; Preferred: $30 Non-preferred: $60 (in-network, after deductible) Out-of-network 20% of cost after in-network copay and after deductible	Generic: $10; Preferred: $20 Non-preferred: $40 No out-of-network pharmacy benefit is provided	Generic: $20; Preferred: $40 Non-preferred: $55	Generic: $10-$20; Preferred: $20-$40 Non-preferred: $35-$55	Tier 1: $20; Tier 2: $40 Tier 3: $55

Retiree Contributions:

General Employees

Retirees under the age of 62 pay the full aggregate active-life rate for coverage. Thus, prior to age 62, the retiree healthcare plan is an access-only plan. Once a retiree attains age 62, the retiree pays a portion of the aggregate, active-life rate, as determined under the following schedule:

General		
Annuitant's Years of Service	**Percentage of Plan Aggregate Cost Rate Paid By Retiree for:**	
	Retiree Coverage	**Dependent/Survivor's Coverage**
Less than 10	100%	100%
10-25	75% minus 2.5% for each year of service in excess of 10	80% minus 2.5% for each year of service in excess of 10
26-29	75% minus 2.5% for each year of service in excess of 10	40%
30 or more	25%	40%

Teachers

For annuitants who are injured in the line of duty, the retiree contributes 25% of the plan aggregate, active-life rate for both retiree and dependent coverage, regardless of years of service.

Teachers		
Annuitant's Years of Service	**Percentage of Plan Aggregate Cost Rate Paid By Retiree for:**	
	Retiree Coverage	**Dependent/Survivor's Coverage**
Less than 10	100%	100%
10-25	75% minus 2.5% for each year of service in excess of 10	80% minus 2.5% for each year of service in excess of 10
26-29	75% minus 2.5% for each year of service in excess of 10	40%
30 or more	25%	40%

Police & Fire

For annuitants who are injured in the line of duty, the retiree contributes 25% of the plan aggregate, active-life rate for both retiree and dependent coverage, regardless of years of service.

Police & Fire		
Annuitant's Years of Service	Percentage of Plan Aggregate Cost Rate Paid By Retiree for:	
	Retiree Coverage	Dependent/Survivor's Coverage
Hired before 11/10/1996		
Less than 5	100%	100%
5 or more	25%	40%
Hired on or after 11/10/1996		
Less than 10	100%	100%
10-21	70% minus 3.0% for each year of service in excess of 10	75% minus 3.0% for each year of service in excess of 10
22-24	70% minus 3.0% for each year of service in excess of 10	40%
25 or more	25%	40%

For annuitants who are injured in the line of duty, the retiree contributes 25% of the plan aggregate, active-life rate for both retiree and dependent coverage, regardless of years of service.

For all groups, there is no change in the cost of the plans once a retiree reaches Medicare eligibility, although Medicare becomes primary once Medicare eligibility is reached.

Total Plan Costs: The total, aggregate plan cost rates applicable to the medical plans for 2015 are set forth as follows:

Total Plan Costs		
Healthcare Plan	Aggregate Cost Rate	
	Employee Only	Employee and Spouse
Aetna Healthcare CDHP	$ 375.28	$ 737.68
Aetna PPO	657.48	1,292.44
Aetna HMO	611.52	1,202.04
Kaiser Permanente HMO	505.16	964.88
United Healthcare Choice Nationwide	566.32	1,081.68

Post-retirement Life Insurance Benefit: A post-retirement life insurance benefit is available for retirees. Participants may elect to continue the amount of the basic preretirement group life insurance amount in retirement, which is one times earnings, plus $2,000. Under the 75% reduction option, participant biweekly premiums of $0.0455 per $1,000 of insurance are required until age 65, with no participant contributions thereafter. Under the 75% reduction option, coverage reduces 2% per month after age 65 until the coverage amount reaches 25% of the original insurance amount and then is level thereafter.

Retirees may also elect a 50% or a 0% reduction option, which require additional retiree contributions. Retirees may also purchase additional life insurance coverage beyond the basic coverage, on a retiree-pay-all basis.

SECTION 8 - Participant Data

The following tables show the current retired participants, and the potential participants who are currently active. These data represent the counts for the valuation/measurement undertaken as of September 30, 2014, which will first be used in GASB disclosures for the 2016-2017 fiscal year.

Table 8.1
Participant Data

	Fire	Police	Teachers	General	Total
Active Employees	1,351	3,219	3,779	14,472	22,821
Average Age	38	40	39	45	43
Average Service	14	15	7	10	10
Average Salary	$74,212	$74,349	$78,111	$67,248	$70,461
Retirees	35	258	447	198	938

All current employees hired on or before September 30, 2014. Only retirees who are currently participating were included in this analysis.

Table 8.2
Age by Service

	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
<25	209	157	97	18	15	7	0	0	0	0	0	503
25-29	659	594	379	251	238	604	23	0	0	0	0	2,748
30-34	461	398	300	217	221	1,330	418	13	1	0	0	3,359
35-39	281	209	200	142	129	1,000	827	260	22	0	0	3,070
40-44	193	166	133	105	108	838	807	633	380	85	0	3,448
45-49	132	116	71	78	91	655	582	465	799	497	6	3,492
50-54	86	91	59	56	80	535	473	330	486	411	60	2,667
55-59	59	49	45	46	45	415	363	263	333	236	64	1,918
60-65	28	25	23	30	27	244	245	210	217	135	43	1,227
>65	3	3	3	3	6	76	87	64	73	56	15	389
	2,111	1,808	1,310	946	960	5,704	3,825	2,238	2,311	1,420	188	22,821

SECTION 9 – Glossary of Actuarial Terms

Actuarial Accrued Liability: The portion of the Actuarial Present Value which is allocated to periods of service ending prior to the current valuation year. This also represents the portion of the Actuarial Present Value that will not be provided for by future Normal Costs.

Actuarial Assumptions: Assumptions used in the determination of the Actuarial Present Value regarding the occurrence of future events, such as mortality, withdrawal, retirement, inflation, investment earnings, etc.

Actuarial Cost Method: A method for allocating the Actuarial Present Value associated with a particular plan of benefits over the time period during which the benefits are earned by employees.

Actuarial Gain or Loss: The difference in the *actual* Actuarial Present Value measured as of a given date from that *expected* based on a set of Actuarial Assumptions.

Actuarial Present Value: The value of a payment or series of payments made at various points in time, each of which is adjusted for (1) the financial effect of intervening events (e.g. compensation changes or medical inflation), (2) the probability that such payment will be made based on the factors on which the payment is conditioned (e.g. continued employment until retirement age or becoming disabled), and (3) discounted to the current date to reflect the time value of money.

Actuarial Value of Assets or Valuation Assets: The value of plan investments that is dedicated to or "belongs" to a plan and is used as the value of assets in applying the Actuarial Cost Method.

Amortization Payment: The portion of the annual plan cost that consists of a principal and interest payment and is designed to pay down the Unfunded Actuarial Accrued Liability over a fixed number of years.

Level Dollar Amortization Method: A funding policy whereby the annual amortization payment is an equal dollar amount for a fixed number of years.

Level Percentage of Payroll Amortization Method: A funding policy whereby the annual amortization payments are computed to be a constant percentage of anticipated payroll for the group of employees covered under the plan. Since payroll amounts are expected to increase over time, the *dollar amount* of the amortization payment will also increase.

Normal Cost: The portion of the Actuarial Present Value that is allocated to the current valuation year under the Actuarial Cost Method being used.

Present Value of Total Projected Benefits: The Actuarial Present Value, measured at a specific date, of all benefits projected to be paid under the plan, based on the current population of active and retired employees.

Pay-As-You-Go: The practice of financing a benefit plan by making contributions to a plan only as and when benefits are due to plan participants.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.