
Government of Guam Retirement Fund

Actuarial Valuation as of September 30, 2012

Prepared by:

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April 11, 2013



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**Government of Guam Retirement Fund –
Actuarial Valuation as of September 30, 2012**

At the request of the Trustees, we have made an actuarial valuation of the Government of Guam Retirement Fund as of September 30, 2012. The purpose of this valuation is to determine the required contribution under the provisions of GCA Section 8137 and to provide the Fund with financial disclosures under GASB Statement No. 25.

In preparing this report, I relied, without audit, on information (some oral and some in writing) supplied by the Government of Guam Retirement Fund's staff. This information includes, but is not limited to, financial information, employee data, and plan provisions. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete the results may be different and the calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations). Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Trustees have the final decision regarding the appropriateness of the assumptions.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Government of Guam Retirement Fund and for fulfilling financial accounting requirements under GASB Statement No. 25. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Government of Guam Retirement Fund's funding requirements and goals. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

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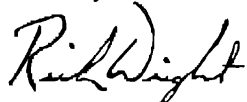
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The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,



Richard A. Wright, FSA, MAAA
Consulting Actuary

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SECTION I. VALUATION SUMMARY

INTRODUCTION

Milliman, Inc. has been retained by the Government of Guam Retirement Fund to provide an actuarial valuation of the retirement fund. In our valuation we:

- Summarize the membership data.
- Calculate the actuarial accrued liability and normal cost.
- Determine the contribution requirements.
- Provide financial information required by GASB No. 25.
- Project the fund balance and security ratio forward 40 years.

The results contained in this report represent our best estimates. However, it is likely that actual experience will vary from these estimates. To the extent that actual experience differs from the anticipated experience, actual plan costs will vary as well.

HIGHLIGHTS

- The required contribution under GCA Section 8137 is **30.03%** of payroll. Of this amount, 24.01% is for the unfunded liability of the defined benefit (DB) plan, 2.39% is for the normal cost of the DB plan, and 3.62% is for contributions and expenses for the defined contribution (DC) plan.

The primary reasons for the decrease in the contribution rate are the recognition of 1/3rd of the investment gains from the 2009-10 and 2011-12 fiscal years, revisions to actuarial assumptions, and demographic factors such as lower salaries for active employees than were expected. These decreases were partially offset by the recognition of 1/3rd of the investment loss from the 2010-11 fiscal year and a decrease in total payroll.

Contribution rate from 9/30/11 actuarial valuation	30.76%
2009-10 investment gain (final 1/3 rd recognition) *	(0.30%)
2010-11 investment loss (second 1/3 rd recognition) *	0.52%
2011-12 investment gain (first 1/3 rd recognition) *	(0.75%)
Total payroll decrease of 0.9% (vs. assumption of a 3.5% increase)	1.07%
Updated actuarial assumptions from experience study	(0.05%)
Other factors, including demographic changes	<u>(1.22%)</u>
Contribution rate in 9/30/12 actuarial valuation	30.03%

* Investment returns that differ from the actuarial assumption of 7% are recognized over a 3 year period.

- Public Law 28-150 provided that the current employer contribution rate will increase over a 5-year period until it reaches the actuarial contribution rate. The employer contribution rate for the 2012-13 fiscal year is 30.09%.
- The defined benefit payroll for the 2011-12 fiscal year was \$169.9 million compared with \$179.0 million for the 2010-11 fiscal year. The total defined benefit and defined contribution payroll for the 2011-12 fiscal year, was \$457.0 million compared with \$461.2 million for the 2010-11 fiscal year, a decrease of 0.9%. The long term assumption in the prior valuation was a 3.5%

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SECTION I. VALUATION SUMMARY

annual growth in total payroll. If total payroll had increased by 3.5%, the required contribution rate would have been 28.96%

- Based on the audited financial statements, we calculated an investment return on the total market value of assets of 18.1% for the fiscal year ending September 30, 2012. The average annual return on the market value of assets for the last 5 fiscal years has been 3.6%. The investment return on the actuarial value of assets, which recognizes investment gains and losses over a 3 year period, was 9.7%.
- The unfunded actuarial accrued liability decreased from \$1.643 billion as of September 30, 2011, to \$1.483 billion as of September 30, 2012. The primary causes for the decrease were the return on the actuarial value of assets of 9.7%, revisions to the actuarial assumptions used to value the plan's liabilities (see "Actuarial Assumptions" below), and actuarial gains during the fiscal year related to salaries for active employees which were lower than expected. The payment required to amortize the unfunded actuarial accrued liability under GCA Section 8137 has decreased from \$116.2 million to \$113.0 million. The payment as a percentage of payroll has decreased from 24.33% to 24.01%.
- Actuarial assumptions have been updated to reflect the assumptions from the actuarial experience study for the period from October 1, 2007, to September 30, 2011, as discussed in "Actuarial Assumptions" on page 5.

SECTION I. VALUATION SUMMARY

RESULTS OF VALUATION

	9/30/2012		9/30/2011	
Participant Counts				
Active				
– Non-Uniformed (DB)		2,767		3,015
– Uniformed (DB)		<u>323</u>		<u>346</u>
– Total (DB)		3,090		3,361
Retired (DB)		<u>7,155</u>		<u>7,117</u>
Total Actives and Retirees (DB)		10,245		10,478
Inactive and Terminated Members assumed to withdraw contributions (DB)		5,346		5,673
Inactive and Terminated Members <u>not</u> assumed to withdraw contributions (DB)		161		160
Active Participants (DC)		7,766		7,690
		(\$millions)		(\$millions)
Actual Payroll for Prior Fiscal Year				
Defined benefit (DB) payroll		\$169.9		\$179.0
Total payroll (DB and DC)		457.0		461.2
Expected Payroll for Next Fiscal Year				
Defined benefit (DB) payroll		\$158.4		\$178.4
Total payroll (DB and DC)		470.7		477.4
Financial Status				
Actuarial accrued liability		\$2,811.4		\$2,906.9
Actuarial value of assets		<u>1,328.8</u>		<u>1,264.1</u>
Unfunded actuarial accrued liability (UAAL)		\$1,482.6		\$1,642.8
Security ratio		47.26%		43.49%
		% of DB Payroll		% of DB Payroll
Normal Cost				
Total normal cost	\$ 26.3*	16.61%	\$ 31.3*	17.52%
Estimated employee contributions	<u>(15.1)</u>	<u>(9.50%)</u>	<u>(16.9)</u>	<u>(9.50%)</u>
Government normal cost	\$ 11.3	7.11%	\$ 14.3	8.02%
		% of Total Payroll		% of Total Payroll
Required Contribution per GCA §8137				
Unfunded actuarial accrued liability cost	\$ 113.0	24.01%	\$ 116.2	24.33%
Government DB normal cost	11.3	2.39%	14.3	3.00%
Expected government DC contributions	<u>17.0*</u>	<u>3.62%</u>	<u>16.4*</u>	<u>3.43%</u>
Total DB and DC contribution	\$ 141.3	30.03%	\$ 146.8	30.76%
Yield on Market Value of Assets		18.1%		(1.1%)

* Includes budgeted administrative expenses.

SECTION I. VALUATION SUMMARY

5-YEAR HISTORICAL SUMMARY

The following table summarizes the principal valuation results over the last 5 years.

	9/30/2012	9/30/2011	9/30/2010	9/30/2009	9/30/2008
Participant Counts					
Active (DB)	3,090	3,361	3,594	3,732	3,952
Retired (DB)	7,155	7,117	7,082	7,112	7,085
Inactives (DB)	<u>5,507</u>	<u>5,833</u>	<u>6,466</u>	<u>6,525</u>	<u>6,634</u>
Total (DB)	15,752	16,311	17,142	17,369	17,671
Active (DC)	7,766	7,690	7,471	7,107	6,759
Actual Payroll					
DB payroll	\$169.9	\$179.0	\$175.8	\$182.0	\$186.0
DC payroll	<u>287.1</u>	<u>282.2</u>	<u>253.3</u>	<u>241.8</u>	<u>225.4</u>
Total payroll	\$457.0	\$461.2	\$429.0	\$423.8	\$411.4
Financial Status					
Accrued liability	\$2,811.4	\$2,906.9	\$2,790.5	\$2,738.8	\$2,718.7
Actuarial assets	<u>1,328.8</u>	<u>1,264.1</u>	<u>1,245.9</u>	<u>1,294.6</u>	<u>1,211.0</u>
UAAL	\$1,482.6	\$1,642.8	\$1,544.7	\$1,444.2	\$1,507.7
Security ratio	47.26%	43.49%	44.65%	47.27%	44.54%
Contribution Rate					
DB Normal Cost (as % of DB payroll)	7.11%	8.02%	7.57%	7.50%	8.84%
% of Total Payroll					
UAAL Rate	24.01%	24.33%	23.75%	21.75%	22.69%
DB Normal Cost	2.39%	3.00%	3.03%	3.03%	3.73%
DC Contribution	<u>3.62%</u>	<u>3.43%</u>	<u>3.31%</u>	<u>3.28%</u>	<u>2.89%</u>
Actuarial Rate *	30.03%	30.76%	30.09%	28.06%	29.31%
Budget Rate	**	30.09%	28.30%	27.46%	26.04%
Investment Yield (Market Value)	18.1%	(1.1%)	11.7%	7.2%	(14.6%)

* "Actuarial Rate" is the contribution rate determined in the actuarial valuation. "Budget Rate" is the contribution rate set by the legislature. Contribution rates apply to the fiscal year beginning one year after the valuation date.

** The budget rate for 2013-14 has not yet been determined.

SECTION I. VALUATION SUMMARY

ACTUARIAL ASSUMPTIONS

The following are the major assumptions used in the actuarial valuation. The assumptions for mortality, retirement, disability, salary scale, and payroll growth have been revised from those used for the prior valuation, based upon recommendations from the actuarial experience study for the period October 1, 2007, through September 30, 2011. To the extent that actual experience differs from the assumptions below, future pension costs will differ.

Interest Rate: The interest rate used as of September 30, 2012, was 7.0%. This assumption is unchanged from the prior valuation. Milliman's expected long-term returns on various asset classes is shown below. The target asset allocation is the expected long-term asset allocation and is based on the Fund's investment policy.

Asset Class	(a) Target Asset Allocation	x	(b) Expected Nominal Return ¹	=	(c) Component Return
U.S. Equities (large cap)	30.00%		8.60%		2.58%
U.S. Equities (small cap)	10.00%		10.38%		1.04%
Non-U.S. Equities	14.25%		8.73%		1.24%
Non-U.S. Equities (emerging markets)	5.75%		11.51%		0.66%
U.S. Fixed Income (aggregate)	30.00%		4.70%		1.41%
Real Estate (REITs)	10.00%		8.41%		<u>0.84%</u>
Expected average return for one year					7.78%
Expected geometric mean (30 years)					6.99%
25 th to 75 th Percentile Return					5.35% - 8.60%

¹ Assumes annual inflation of 2.75%.

The current assumption of 7.0% is about equal to the expected geometric average return over the next 30 years, and is close to the midpoint of the 25th to 75th percentile of expected results. Note that if investments fail to achieve the assumed interest rate, future pension costs will increase.

Mortality. The mortality table used as of September 30, 2012, was the RP-2000 combined mortality table, set forward by 4 years for males and 1 year for females. The mortality table used for the prior valuation was the RP-2000 combined mortality table, set forward by 3 years for males and 1 year for females.

The mortality table used for disabled lives was the RP-2000 disability mortality table for males and females. The mortality assumption for disabled lives is unchanged from the prior valuation.

Salary Increases. Salaries were assumed to increase 7.5% per year for employees in their first 5 years of service, 6.0% for service between 6 and 10 years, 5.0% for service between 11 and 15 years, and 4.5% for service after 15 years. For the prior valuation, salaries were assumed to increase 8.5% per year for employees in their first 5 years of service, 7.0% for service between 6 and 10 years, 6.0% for service between 11 and 15 years, 5.0% for service between 16 and 20 years, and 4.0% for service after 20 years.

SECTION I. VALUATION SUMMARY

Total Payroll Growth. Total payroll for defined benefit and defined contribution members is assumed to increase 3.0% per year. The assumption for the prior valuation was that total payroll would increase 3.5% per year.

Retirement Age. We have assumed 40% of employees will retire when first eligible for unreduced retirement. Thereafter, 15% of employees will retire at each year until age 65, and 20% of employees will retire from age 65 until age 70, at which time all remaining employees are assumed to retire. For the prior valuation, we assumed that 50% of employees would retire when first eligible for unreduced retirement. Thereafter, 20% of employees would retire at each year until age 70, at which time all remaining employees were assumed to retire.

Return of Contributions. We have assumed that any current employees who terminate employment prior to retirement and who have less than 20 years of service will elect a return of contributions in lieu of a deferred benefit. Employees with at least 20 years of service who terminate employment are assumed to retire upon eligibility for unreduced benefits. This assumption is unchanged from the prior valuation.

Current terminated or inactive members with at least 5 years of service and a contributions balance that exceeds \$10,000 who have not withdrawn their contributions and for whom sufficient earnings data are available to value their retirement benefits are assumed to retire upon eligibility for unreduced benefits. All other terminated and inactive members are assumed to elect to withdraw their contributions.

Administrative Expenses. Total administrative expenses are assumed to be \$6,663,000, which is the amount budgeted for the year ending September 30, 2013. Of this amount, \$5,228,000 is allocated to the defined benefit plan and \$1,435,000 to the defined contribution plan.

Rates of Withdrawal and Disability. The assumed rates of withdrawal and disability are shown in Appendix B. The rates of withdrawal are unchanged from the prior valuation. The assumed rates of disability were reduced by 50% relative to the assumption used for the prior valuation.

Probability of Marriage. We have assumed that 75% of retirees will be married at retirement. This assumption is unchanged from the prior valuation.

Asset Valuation Method. Investment gains/losses relative to the assumed investment return are phased in over a period of 3 years. Certain receivables and liabilities whose payments are deducted from employer contributions to the Fund are excluded from the actuarial value of assets. This valuation method is unchanged from the prior valuation.

A complete summary of actuarial assumptions is in Appendix B.

FUNDING METHOD

GCA Section 8137 requires a contribution sufficient to fully fund the unfunded actuarial accrued liability by 2031 (within 80 years from May 1, 1951). The required contribution shown in this report includes a payment for the normal cost of active members of the Fund, and amortizes the unfunded actuarial accrued liability over the remaining 18.58 years as a level percentage of total payroll (including both defined benefit and defined contribution members).

SECTION I. VALUATION SUMMARY

Exhibits 19 and 20 project the employer and employee contributions, fund balance, actuarial accrued liability and security ratio forward 40 years based upon the current funding method.

SECTION II. FUND ASSETS

EXHIBIT 1. SUMMARY OF DB PLAN ASSETS

Listed below are the assets reported for the defined benefit (DB) pension plan in the Fund's draft financial statements as of September 30, 2012, excluding certain receivables and liabilities whose payments are deducted from employer contributions to the Fund, along with the audited assets as of September 30, 2011.

	9/30/2012	9/30/2011
Investments		
Common stocks	\$ 831,846,693	\$ 688,984,305
Mutual funds	141,150,650	94,335,163
U.S. government securities	202,542,843	167,582,279
Corporate bonds and notes	180,336,742	195,167,909
Money market funds	<u>64,696,700</u>	<u>58,355,513</u>
Total investments	1,420,573,628	1,204,425,169
Receivables		
Employer contributions, net	1,717,520	12,153,131
Employer contributions, unfunded liability	2,615,577	8,861,049
Member contributions	591,143	4,226,049
Accrued investment income	4,780,898	5,228,841
Due from brokers for unsettled trades	4,815,852	2,679,861
Notes receivable for service credits	1,083,922	1,103,793
Notes receivable ERIP	2,290,473	3,561,549
Interest and penalties	231,896	2,622,664
Supplemental/insurance benefits advanced	3,511,711	3,511,711
Other receivables	812,412	826,088
Due from DC plan	<u>260,250</u>	<u>463,984</u>
Total receivables	22,711,654	45,238,720
Cash and cash equivalents	3,398,096	5,010,155
Property and equipment	<u>908,472</u>	<u>967,746</u>
Total assets	\$ 1,447,591,850	\$ 1,255,641,790
Liabilities		
Accounts payable and accrued expenses	\$ 2,064,479	\$ 1,713,718
Due to brokers for unsettled trades	<u>54,105,484</u>	<u>37,717,936</u>
Total liabilities	\$ 56,169,963	\$ 39,431,654
Valuation Assets	<u>\$ 1,391,421,887</u>	<u>\$ 1,216,210,136</u>
Excluded Assets ¹		
Receivable – ERIP employer share	\$ 0	\$ 0
Supplemental/COLA benefits receivable	56,350,125	61,841,261
Deferred revenue for service credits	<u>(4,097,948)</u>	<u>(12,225,887)</u>
Total excluded assets	\$ 52,252,177	\$ 49,615,374

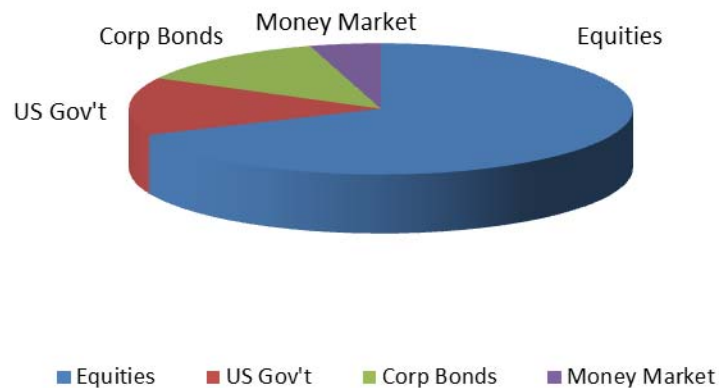
¹ Excluded because payments towards these receivables are deducted from employer contributions.

SECTION II. FUND ASSETS

EXHIBIT 2. DB PLAN ASSET ALLOCATION

The allocation of assets among various investment classes is an important determinant of expected future investment returns.

	DB ASSET ALLOCATION	
	9/30/2012	9/30/2011
Common stocks and mutual funds	68.5%	65.0%
U.S. government securities	14.3%	13.9%
Corporate bonds and notes	12.7%	16.2%
Money market funds	<u>4.5%</u>	<u>4.9%</u>
Total	100.0%	100.0%



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SECTION II. FUND ASSETS

EXHIBIT 3. CHANGES IN DB PLAN ASSETS

Assets increase or decrease each year due to employer contributions, investment income, benefit payments to retiring participants, plan expenses paid by the trust fund, and any realized and unrealized gains and losses from investments.

	FISCAL YEAR ENDING	
	9/30/2012	9/30/2011
Beginning Balance	\$ 1,216,210,136	\$ 1,285,653,191
Contributions		
Employer contributions	116,512,456	100,343,563
Member contributions	16,712,987	18,081,130
Decrease/(increase) in excluded assets	<u>(2,636,803)</u>	<u>11,183,612</u>
Total contributions	130,588,640	129,608,305
Investment Income		
Net appreciation in fair value	207,622,587	(46,794,683)
Interest	17,266,613	20,463,983
Dividends	15,288,485	16,780,298
Other investment income	538,358	916,871
Investment expenses	<u>(4,867,456)</u>	<u>(4,958,871)</u>
Total investment income	235,848,587	(13,592,402)
Benefit Payments		
Age and service annuities	153,185,692	149,023,692
Disability annuities	7,146,937	7,505,065
Survivor annuities	24,047,722	20,188,068
Refunds to separated employees	2,709,194	3,615,187
Interest on refunded contributions	1,294,416	1,968,048
Balances transferred to DC plan	<u>33,891</u>	<u>111,474</u>
Total benefit payments	188,417,852	182,411,534
Administrative Expenses	2,807,624	3,047,424
Ending Balance	\$ 1,391,421,887	\$ 1,216,210,136

SECTION II. FUND ASSETS

EXHIBIT 4. ACTUARIAL VALUE OF ASSETS

The actuarial value of assets as of September 30, 2012, is equal to the market value of DB plan assets adjusted to phase in gains and losses relative to the assumed rate of return over a 3-year period, and to exclude certain receivables and liabilities whose payments are deducted from employer contributions to the Fund.

	9/30/2012	9/30/2011
Valuation assets at market value	\$ 1,391,421,887	\$ 1,216,210,136
(Gains)/Losses excluded from actuarial value (see below)	<u>(62,668,438)</u>	<u>47,869,779</u>
Actuarial value of assets	\$ 1,328,753,449	\$ 1,264,079,915
Actuarial value as % of market value	95.5%	103.9%

3-Year Phase-in of Gains and (Losses)

Year	Expected Return ¹	Actual Return	Gain/(Loss)	Percent Excluded	Excluded From Market Value
2011/2012	\$ 91,267,121	\$235,848,587	\$ 144,581,466	66.67%	\$ 96,387,644
2010/2011	87,565,216	(13,592,402)	(101,157,618)	33.33%	(33,719,206)
2009/2010	87,049,474	145,755,373	58,705,899	0.00%	<u>0</u>
Total					\$ 62,668,438

¹ Expected return is based on the assumed investment return, which is 7.0%.

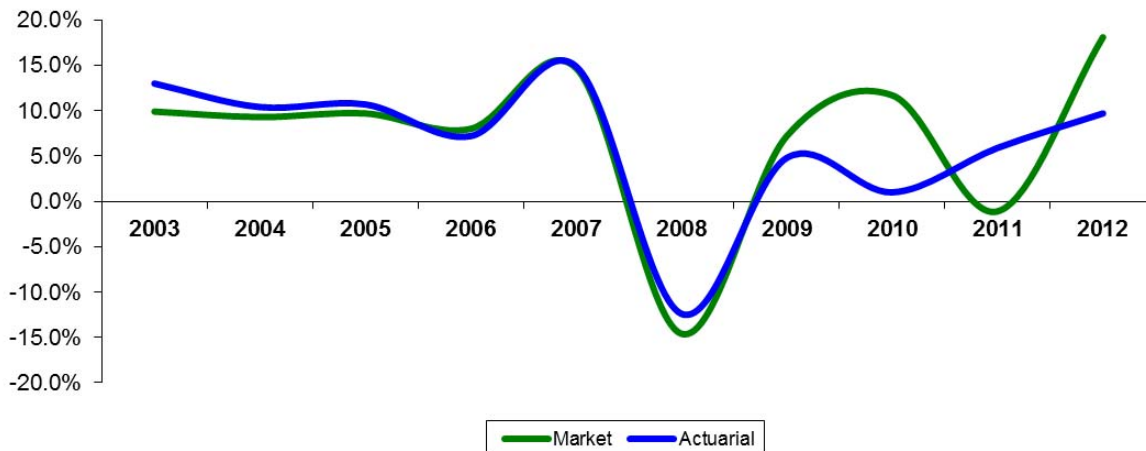
SECTION II. FUND ASSETS

EXHIBIT 5. HISTORICAL RETURNS ON DB PLAN ASSETS

The following table shows the historical return on DB plan assets over the last 10 years. The assumed actuarial valuation rate is 7.0%.

Fiscal Year Ending 9/30	Return on Market Value	Return on Actuarial Value
2012	18.1%	9.7%
2011	(1.1)%	5.9%
2010	11.7%	1.0%
2009	7.2%	4.8%*
2008	(14.6%)	(12.4%)
2007	14.7%	14.9%
2006	8.0%	7.2%
2005	9.7%	10.7%
2004	9.3%	10.4%
2003	9.9%	13.0%
2002	(0.5%)	(2.7%)
Average of last 5 years	3.6%	1.0%
Average of last 10 years	6.9%	6.0%

* Based on the asset valuation method as of September 30, 2008 (i.e., fixed income investments are valued at amortized cost).



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SECTION III. MEMBERSHIP DATA

EXHIBIT 6. ACTIVE EMPLOYEES (DB)

	9/30/2012	9/30/2011
Reconciliation of Census		
Members reported in raw data	8,651	9,206
Number excluded due to:		
Reported as inactive	5,241	4,286
Reported as terminated	235	244
Zero earnings	16	1,292
Refund of contributions	15	11
Duplicate inactive records	39	0
Duplicate retiree records	<u>15</u>	<u>12</u>
Total exclusions	5,561	5,845
Active employees in valuation	3,090	3,361
Active Employees – Non-Uniformed		
Number vested	2,733	2,961
Number not vested	<u>34</u>	<u>54</u>
Total	2,767	3,015
Average age	51.7	51.1
Average service	23.0	22.3
Average earnings	\$ 50,539	\$ 52,579
Average accumulated contributions	\$ 121,474	\$ 107,253
Active Employees – Uniformed		
Number vested	322	345
Number not vested	<u>1</u>	<u>1</u>
Total	323	346
Average age	48.2	47.5
Average service	24.2	23.4
Average earnings	\$ 71,821	\$ 74,981
Average accumulated contributions	\$ 162,195	\$ 149,190
Active Employees – Total		
Number vested	3,055	3,306
Number not vested	<u>35</u>	<u>55</u>
Total	3,090	3,361
Average age	51.3	50.8
Average service	23.1	22.4
Average earnings	\$ 52,763	\$ 54,885
Average accumulated contributions	\$ 125,730	\$ 111,570

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SECTION III. MEMBERSHIP DATA

EXHIBIT 7. ACTIVE EMPLOYEES BY AGENCY

	9/30/2012 (DC)	9/30/2012 (DB)	9/30/2011 (DC)	9/30/2011 (DB)
Agency For Human Resources Development	26	16	21	17
Bureau of Budget & Management Research	7	11	7	11
Bureau of Statistics and Plans	13	23	11	24
Chamorro Land Trust	4	3	10	3
Chief Medical Examiner	3	0	3	0
Customs & Quarantine	93	42	97	44
Dept of Administration	93	54	93	60
Dept of Agriculture	34	34	40	35
Dept of Chamorro Affairs*	27	12	7	6
Dept of Corrections	154	49	157	62
Dept of Education	2,766	1,002	2,719	1,084
Dept of Labor	36	15	33	15
Dept of Land Management	19	26	19	25
Dept of Law	131	40	113	41
Dept of Mental Health & Substance Abuse	161	36	116	39
Dept of Military Affairs	31	10	31	10
Dept of Parks and Recreation	29	22	33	28
Dept of Public Health & Social Services	272	112	276	134
Dept of Public Works	190	141	202	160
Dept of Revenue and Taxation	102	60	107	64
Dept of Youth Affairs	48	26	54	30
DISID	15	9	19	11
Government of Guam Retirement Fund	24	14	25	15
Governor's Office	86	7	88	8
Guam Airport Authority	141	76	135	80
Guam CAHA*	0	0	3	2
Guam Community College	187	78	196	78
Guam Economic Development Agency	23	7	21	7
Guam Energy Office	7	3	8	4
Guam Environmental Protection Agency	39	10	38	12
Guam Fire Dept	137	141	137	150
Guam Housing & Urban Renewal Agency	77	25	70	26
Guam Housing Corporation	20	6	20	6
Guam Legislature	53	5	51	11
Guam Memorial Hospital Authority	771	188	790	206
Guam Police Dept	236	116	237	126
Guam Power Authority	359	185	340	192
Guam Public Library*	0	0	21	6
Guam Visitors Bureau	21	7	22	7
Guam Waterworks Authority	226	74	214	84
Judiciary Of Guam	247	102	256	111
KGTF	1	6	2	8
Lt. Governor's Office	19	0	15	0
Mayor's Council	183	17	172	16
Port Authority Of Guam	259	98	256	104
Public Auditors	11	1	15	1
Public Defender	38	20	36	21
University Of Guam	347	161	354	177
TOTAL	7,766	3,090	7,690	3,361

* For 2012, the Dept. of Chamorro Affairs' member count includes Guam CAHA and Guam Public Library.

SECTION III. MEMBERSHIP DATA

EXHIBIT 8. RETIRED EMPLOYEES (DB)

	9/30/2012	9/30/2011
Service Retirees		
Count	4,986	4,948
Average age	67.7	67.2
Average benefit	\$30,819	\$30,296
Disabled Retirees		
Count	331	355
Average age	64.9	64.9
Average benefit	\$21,088	\$20,565
Survivors		
Count	1,561	1,551
Average age	70.3	70.0
Average benefit	\$14,983	\$14,918
Child Pensioners		
Count	277	263
Average age	15.9	15.1
Average benefit	\$2,880	\$2,880
Total Retirees and Survivors		
Count	7,155	7,117
Average age*	68.1	67.7
Average benefit*	\$26,757	\$26,312

* Excludes child pensioners.

SECTION III. MEMBERSHIP DATA**EXHIBIT 9. TERMINATED AND INACTIVE MEMBERS (DB)**

	9/30/2012	9/30/2011
Reported as Inactive		
Count	5,241	4,286
Accumulated contributions	\$ 11,648,767	\$ 1,387,911
Reported as Terminated		
Count	235	244
Accumulated contributions	\$ 585,877	\$ 598,228
Zero Earnings		
Count	16	1,292
Accumulated contributions	\$ 456,034	\$ 10,252,268
Refund of Contributions		
Count	15	11
Accumulated contributions	\$ 114,629	\$ 41,731
Total Terminateds and Inactives		
Count	5,507	5,833
Accumulated contributions	\$ 12,805,307	\$ 12,280,138
<hr/>		
Assumed to Withdraw Contributions		
Count	5,346	5,673
Accumulated contributions	\$ 3,306,403	\$ 3,470,128
Not Assumed to Withdraw Contributions		
Count	161	160
Average age	51.8	51.1
Average benefit	12,749	12,562
Accumulated contributions	\$ 9,498,905	\$ 8,810,010

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SECTION III. MEMBERSHIP DATA

EXHIBIT 10. RECONCILIATION OF MEMBERSHIP DATA (DB)

	Act	Inact	Term	Zero	Refund	Ret	Surv	Disab	Child	Total
9/30/2011	3,361	4,286	244	1,292	11	4,948	1,551	355	263	16,311
Additions from:										
Actives		27	0	8	14	117	1	6	0	173
Inactives	3		0	0	0	1	0	0	0	4
Terminations	0	7		0	0	0	0	0	0	7
Zero earnings	13	1,166	0		0	3	0	0	0	1,182
Refunds	0	2	0	1		2	0	0	0	5
Retiree	0	0	0	0	0		0	0	0	0
Survivor	0	0	0	0	0	0		0	0	0
Disability	0	0	0	0	0	0	0		0	0
Child	0	0	0	0	0	0	0	0		0
Other adds ¹	1	13	0	0	1	49	89	1	38	192
Subtotal	17	1,215	0	9	15	172	90	7	38	1,704
Subtractions due to:										
Actives		-3	0	-13	0	0	0	0	0	-16
Inactives	-27		-7	-1,166	-2	0	0	0	0	-1,202
Terminations	0	0		0	0	0	0	0	0	0
Zero earnings	-8	0	0		-1	0	0	0	0	-9
Refunds	-14	0	0	0		0	0	0	0	-14
Retiree	-117	-1	0	-3	-2		0	0	0	-123
Survivor	-1	0	0	0	0	0		0	0	-1
Disability	-6	0	0	0	0	0	0		0	-6
Child	0	0	0	0	0	0	0	0		0
Other drops ²	-115	-256	-2	-103	-6	-134	-80	-31	-24	-751
Subtotal	-288	-260	-9	-1,285	-11	-134	-80	-31	-24	-2,263
9/30/2012	3,090	5,241	235	16	15	4,986	1,561	331	277	15,752

1 Other additions indicate members or beneficiaries who were reported this year but who were not included in the prior year's valuation (e.g. a new beneficiary, etc.).

2 Other drops indicate members or beneficiaries who were in the prior year's valuation but who were not reported in this year's census data (e.g. members who received a complete refund, retirees or beneficiaries who are now deceased, children who have reached the maximum age, etc.).

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SECTION IV. VALUATION EXHIBITS

EXHIBIT 11. ACTUARIAL ACCRUED LIABILITY

The actuarial accrued liability has been calculated using the Entry Age Normal actuarial cost method, and is equal to the present value of benefits for all DB members less the present value of future normal costs for active DB employees.

	9/30/2012	9/30/2011
Present Value of Benefits		
Active employees –		
Retirement	\$ 989,627,993	\$ 1,076,294,645
Disability	29,932,950	60,880,382
Death	28,546,715	24,483,280
Withdrawal	<u>46,498,593</u>	<u>52,445,579</u>
Total active PVB	1,094,606,251	1,214,103,886
Retirees and Survivors		
Retirees	1,566,820,432	1,565,367,073
Disabled retirees	66,400,453	69,845,526
Survivors	<u>222,230,668</u>	<u>223,222,156</u>
Total retirees and survivors	1,855,451,553	1,858,434,755
Terminated and inactive members		
Assumed to retire	13,235,074	12,243,321
Assumed to elect return of contributions	<u>3,306,403</u>	<u>3,470,128</u>
Total terminated and inactive members	16,541,477	15,713,449
Total PVB	\$ 2,966,599,281	\$ 3,088,252,090
Present Value of Future Normal Cost		
Active employees –		
Retirement	\$ 116,784,287	\$ 131,346,807
Disability	9,396,559	19,796,837
Death	7,399,228	7,151,836
Withdrawal	<u>21,619,682</u>	<u>23,057,983</u>
Total active PVFNC	\$ 155,199,756	\$ 181,353,463
Actuarial Accrued Liability		
Active members	\$ 939,406,495	\$ 1,032,750,423
Retirees and survivors	1,855,451,553	1,858,434,755
Terminations and inactives	<u>16,541,477</u>	<u>15,713,449</u>
Total accrued liability	\$ 2,811,399,525	\$ 2,906,898,627

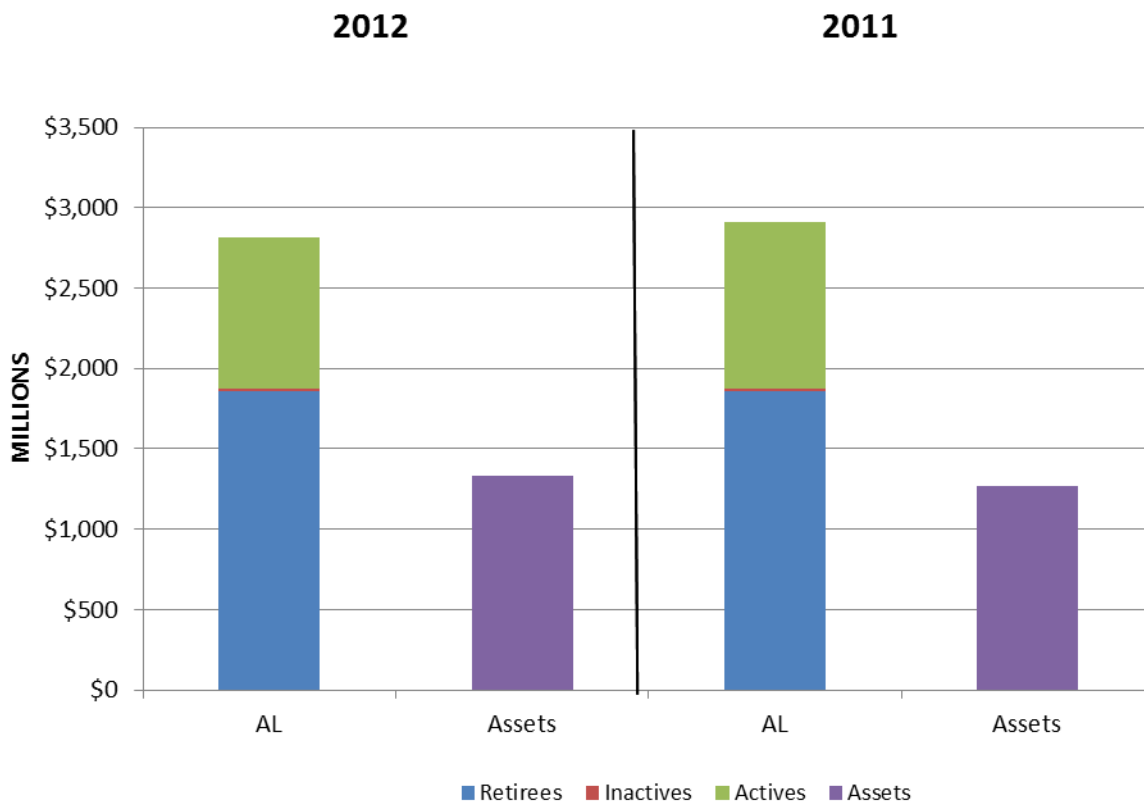
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SECTION IV. VALUATION EXHIBITS

EXHIBIT 12. CALCULATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

The unfunded actuarial accrued liability is used to determine the funding requirements. The unfunded actuarial accrued liability equals the actuarial accrued liability less the valuation assets.

	9/30/2012	9/30/2011
Actuarial Accrued Liability		
Active members	\$ 939,406,495	\$ 1,032,750,423
Retirees and survivors	1,855,451,553	1,858,434,755
Terminations and inactives	<u>16,541,477</u>	<u>15,713,449</u>
Total accrued liability	\$ 2,811,399,525	\$ 2,906,898,627
Actuarial Value of Assets	1,328,753,449	1,264,079,915
Unfunded Actuarial Accrued Liability	\$ 1,482,646,076	\$ 1,642,818,712
Security Ratio = (Assets/AAL)	47.26%	43.49%



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SECTION IV. VALUATION EXHIBITS

EXHIBIT 13. CALCULATION OF ACTUARIAL GAIN/LOSS

	9/30/2012	9/30/2011
Unfunded Actuarial Accrued Liability, beginning of year	\$ 1,642,818,712	\$ 1,544,682,042
Additions:		
Normal cost	13,833,495	13,010,113
Interest to end of year	<u>115,965,654</u>	<u>109,038,451</u>
Total additions	129,799,149	122,048,564
Deductions:		
Employer contributions for year	113,875,653	111,527,175
Interest on contributions	<u>3,918,238</u>	<u>3,837,432</u>
Total deductions	117,793,891	115,364,607
Other Changes:		
Plan amendments	0	64,246,714
Changes in assumptions and methods	<u>(33,977,679)</u>	<u>3,433,311</u>
Net other changes	(33,977,679)	67,680,025
Expected UAAL, end of year	\$ 1,620,846,291	\$ 1,619,046,024
Actual UAAL, end of year	<u>1,482,646,076</u>	<u>1,642,818,712</u>
Actuarial Gain/(Loss)	\$ 138,200,215	\$ (23,772,688)
Components of Actuarial Gain/(Loss):		
Investment gain/(loss) on actuarial value of assets	\$ 35,003,250	\$ (13,804,617)
Other changes	<u>103,196,965</u>	<u>(9,968,071)</u>
Total actuarial gain/(loss)	\$ 138,200,215	\$ (23,772,688)

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SECTION IV. VALUATION EXHIBITS

EXHIBIT 14. NORMAL COST

The normal cost has been calculated using the Entry Age Normal actuarial cost method.

	9/30/2012		9/30/2011	
Expected defined benefit payroll for next fiscal year	\$ 158,430,450		\$ 178,357,732	
		% of DB Payroll		% of DB Payroll
Normal cost ¹				
Retirement	\$ 15,899,161	10.04%	\$ 18,944,769	10.62%
Disability	1,297,529	0.82%	2,834,870	1.59%
Withdrawal	2,871,643	1.81%	3,213,004	1.80%
Death	<u>1,020,866</u>	<u>0.64%</u>	<u>1,034,821</u>	<u>0.58%</u>
Total active normal cost	\$ 21,089,199	13.31%	\$ 26,027,464	14.59%
Assumed DB administrative expenses	<u>5,228,000</u>	<u>3.30%</u>	<u>5,226,000</u>	<u>2.93%</u>
Total normal cost and expenses	\$ 26,317,199	16.61%	\$ 31,253,464	17.52%
Expected member contributions	<u>(15,050,893)</u>	<u>(9.50%)</u>	<u>(16,943,985)</u>	<u>(9.50%)</u>
Government portion of normal cost	\$ 11,266,306	7.11%	\$ 14,309,479	8.02%

¹ Includes interest to mid-year.

SECTION IV. VALUATION EXHIBITS

EXHIBIT 15. AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

Pursuant to GCA Section 8137, the unfunded liabilities of the Government of Guam Retirement Fund are to be completely funded within 80 years from May 1, 1951. As of September 30, 2012, there are 18.58 years remaining in the funding period. The amortization of the unfunded actuarial accrued liability is calculated as a constant percentage of total payroll, which is assumed to grow at 3.0% per year.

	9/30/2012	9/30/2011
Total payroll (DB and DC) for fiscal year following	\$ 470,694,847	\$ 477,353,332
Unfunded actuarial accrued liability	1,482,646,076	1,642,818,712
Remaining funding period	18.58 years	19.58 years
Annual amortization	113,011,781	116,150,783
As % of total payroll (DB and DC)	24.01%	24.33%

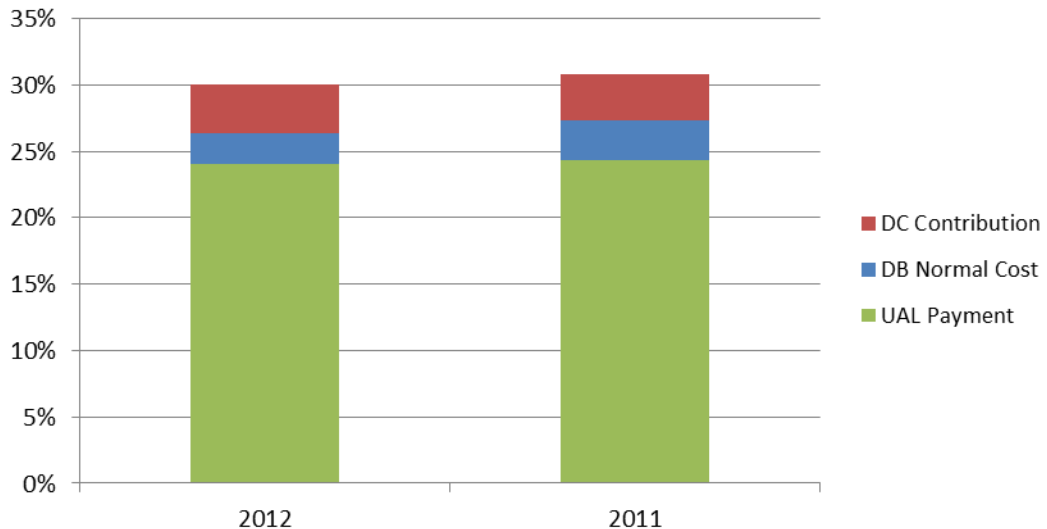
SECTION IV. VALUATION EXHIBITS

EXHIBIT 16. CONTRIBUTION REQUIREMENTS

The required contribution is equal to the sum of (1) the government normal cost for the defined benefit (DB) plan, (2) the amortization payment towards the unfunded actuarial accrued liability of the defined benefit (DB) plan, and (3) the expected government contributions to the defined contribution (DC) plan. The required contribution is then divided by the sum of the DB and DC payroll to determine the contribution rate as a percentage of payroll.

	9/30/2012	9/30/2011
Expected payroll for next fiscal year		
Defined benefit (DB)	\$ 158,430,450	\$ 178,357,732
Defined contribution (DC)	<u>312,264,397</u>	<u>298,995,600</u>
Total payroll (DB and DC)	\$ 470,694,847	\$ 477,353,332
Government normal cost excluding expenses (DB)	11,266,306	14,309,479
As % of DB payroll	7.11%	8.02%
As % of total payroll (DB and DC)	2.39%	3.00%
Amortization of UAAL (DB)	113,011,781	116,150,783
As % of total payroll (DB and DC)	24.01%	24.33%
Government DC contributions	17,048,220	16,361,780
As % of DC payroll	5.46%	5.47%
As % of total payroll (DB and DC)	3.62%	3.43%
Total DB and DC contributions	\$ 141,326,307	\$ 146,822,042
% of total payroll (DB and DC)	30.03%	30.76%

CONTRIBUTION RATE



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SECTION IV. VALUATION EXHIBITS

EXHIBIT 17. GASB NO. 25 SCHEDULE OF FUNDING PROGRESS

Government Accounting Standards Board (GASB) Statement No. 25 – Financial Reporting for Defined Benefit Pension Plans requires disclosure of the Schedule of Funding Progress.

Actuarial Valuation Date	Actuarial Value of Assets	Entry Age Normal Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Total Government Covered Payroll	UAAL as a Percentage of Covered Payroll
9/30/2001	\$1,265,001,000	\$2,333,862,000	\$1,068,861,000	54.2%	\$403,061,000	265.2%
9/30/2002	1,135,666,000	2,378,399,000	1,242,733,000	47.7%	395,967,000	313.8%
9/30/2003	1,206,911,000	2,614,840,000	1,407,929,000	46.2%	398,112,000	353.7%
9/30/2004	1,245,305,000	2,599,747,000	1,354,442,000	47.9%	365,592,000	370.5%
9/30/2005	1,293,564,000	2,583,366,000	1,289,802,000	50.1%	368,712,000	349.8%
9/30/2006	1,320,914,000	2,656,047,000	1,335,133,000	49.7%	389,786,000	342.5%
9/30/2007	1,448,655,000	2,682,118,000	1,233,463,000	54.0%	390,246,000	316.1%
9/30/2008	1,210,960,000	2,718,664,000	1,507,704,000	44.5%	425,781,000	354.1%
9/30/2009	1,294,604,000	2,738,765,000	1,444,161,000	47.3%	438,606,000	329.3%
9/30/2010	1,245,850,000	2,790,532,000	1,544,682,000	44.7%	444,061,000	347.9%
9/30/2011	1,264,080,000	2,906,899,000	1,642,819,000	43.5%	477,353,000	344.2%
9/30/2012	1,328,753,000	2,811,400,000	1,482,647,000	47.3%	470,695,000	315.0%

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SECTION IV. VALUATION EXHIBITS

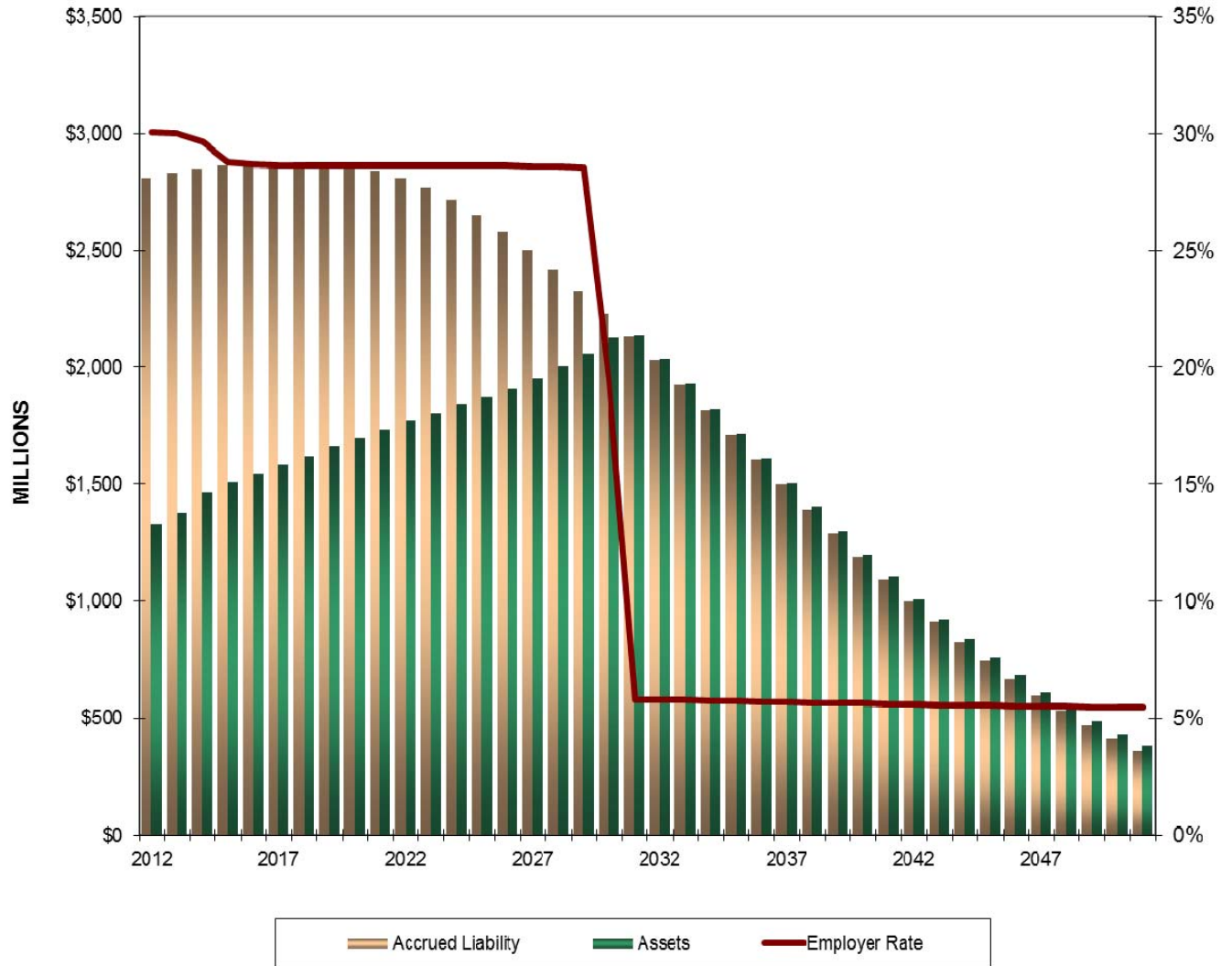
EXHIBIT 18. GASB NO. 25 SCHEDULE OF EMPLOYER CONTRIBUTIONS

Government Accounting Standards Board (GASB) Statement No. 25 – Financial Reporting for Defined Benefit Pension Plans requires disclosure of the Schedule of Employer Contributions.

Fiscal Year Ending	Annual Required Contribution	Employer Contribution	Percentage Contributed
September 30, 1991	\$ 83,988,000	\$ 51,612,000	61.5%
September 30, 1992	88,187,000	54,111,000	61.4%
September 30, 1993	94,552,000	59,117,000	62.5%
September 30, 1994	99,280,000	80,965,000	81.6%
September 30, 1995	67,650,000	66,904,000	98.9%
September 30, 1996	71,187,000	68,969,000	96.9%
September 30, 1997	67,521,000	81,546,000	120.8%
September 30, 1998	61,929,000	81,877,000	132.2%
September 30, 1999	63,985,000	96,134,000	150.2%
September 30, 2000	52,463,000	85,831,000	163.6%
September 30, 2001	75,494,000	73,386,000	97.2%
September 30, 2002	75,906,000	78,087,000	102.9%
September 30, 2003	98,630,000	63,486,000	64.4%
September 30, 2004	115,978,000	63,388,000	54.7%
September 30, 2005	123,958,000	70,658,000	57.0%
September 30, 2006	117,041,000	85,771,000	73.3%
September 30, 2007	113,207,000	76,973,000	68.0%
September 30, 2008	116,063,000	86,806,000	74.8%
September 30, 2009	107,009,000	92,921,000	86.8%
September 30, 2010	129,196,000	101,232,000	78.4%
September 30, 2011	122,105,000	111,527,000	91.3%
September 30, 2012	129,838,000	113,876,000	87.7%

SECTION IV. VALUATION EXHIBITS

EXHIBIT 19. PROJECTION OF CONTRIBUTION RATE



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SECTION IV. VALUATION EXHIBITS

EXHIBIT 19. PROJECTION OF CONTRIBUTION RATE (values)

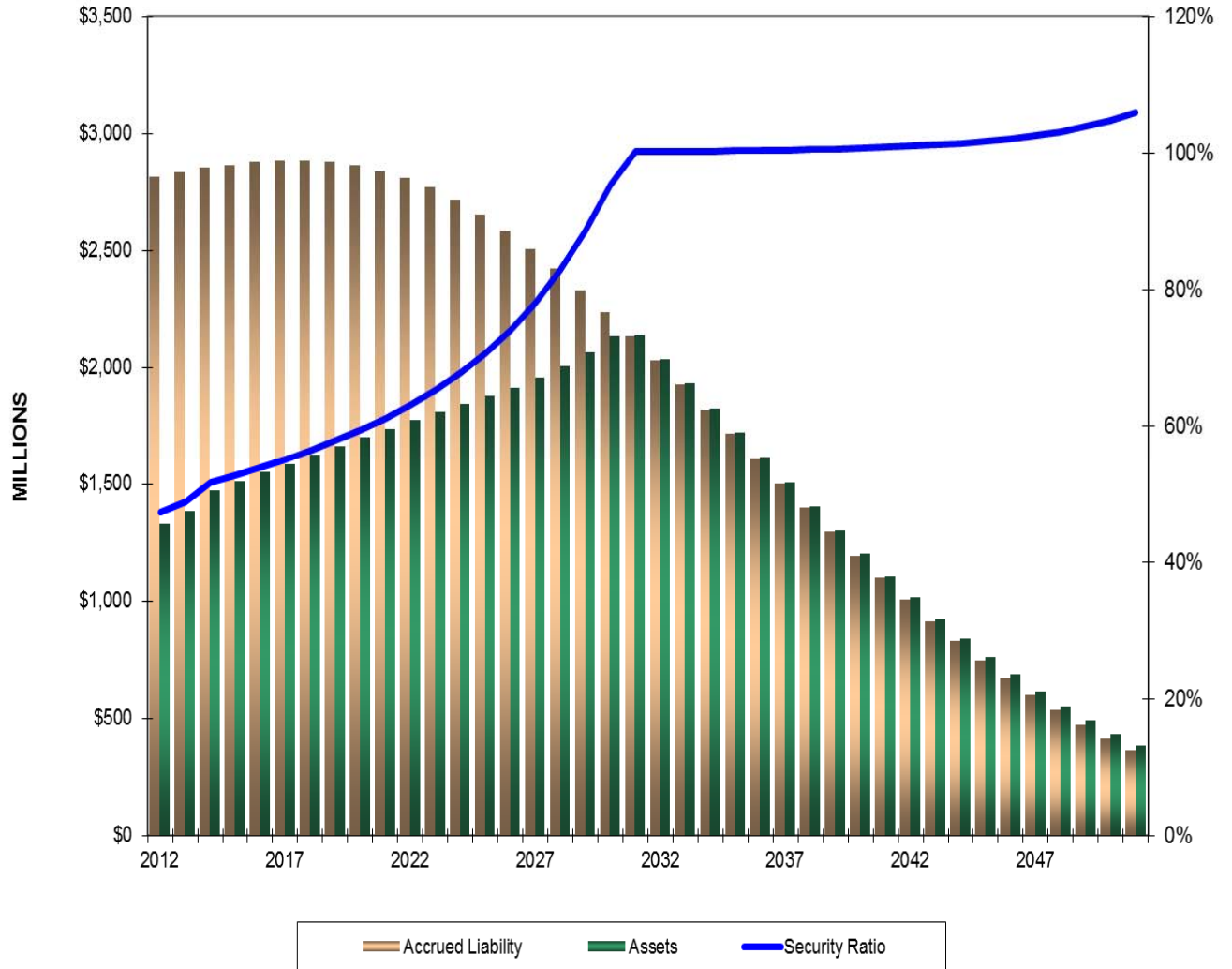
Year Ending	PAYROLL ¹		CONTRIB RATE		CONTRIBUTIONS			Invest Gain ²	Benefits/ Expenses	DB Fund Actuarial
	DB	DC	DB	DC	DB	DC	EE			
2012										\$1,328.75
2013	\$158.43	\$ 312.26	30.09%	24.63%	\$47.67	\$ 76.91	\$15.09	\$ 94.55	\$(195.35)	1,382.11
2014	154.32	330.49	30.03%	24.59%	46.34	81.27	14.70	97.21	(199.15)	1,470.68
2015	149.54	349.82	29.67%	24.26%	44.37	84.86	14.24	99.92	(203.07)	1,511.00
2016	143.76	370.58	28.76%	23.37%	41.35	86.62	13.71	102.52	(207.28)	1,547.91
2017	137.44	392.33	28.66%	23.30%	39.40	91.41	13.10	105.01	(211.62)	1,585.21
2018	130.89	414.78	28.63%	23.28%	37.47	96.57	12.48	107.54	(215.93)	1,623.35
2019	123.11	438.93	28.61%	23.29%	35.22	102.20	11.74	110.11	(220.86)	1,661.76
2020	113.87	465.03	28.62%	23.31%	32.59	108.40	10.88	112.67	(226.54)	1,699.75
2021	103.57	492.69	28.62%	23.33%	29.65	114.96	9.90	115.17	(232.75)	1,736.68
2022	92.75	521.40	28.63%	23.36%	26.56	121.79	8.86	117.60	(239.12)	1,772.36
2023	81.64	550.93	28.64%	23.38%	23.38	128.78	7.82	119.95	(245.25)	1,807.05
2024	70.66	580.89	28.64%	23.39%	20.24	135.90	6.77	122.26	(250.97)	1,841.24
2025	60.27	610.83	28.64%	23.40%	17.26	142.95	5.79	124.58	(255.47)	1,876.36
2026	50.71	640.52	28.63%	23.41%	14.52	149.95	4.88	127.02	(258.94)	1,913.78
2027	42.65	669.32	28.62%	23.40%	12.21	156.64	4.11	129.69	(260.71)	1,955.72
2028	35.92	697.41	28.59%	23.39%	10.27	163.11	3.47	132.76	(260.70)	2,004.64
2029	30.07	725.25	28.57%	23.37%	8.59	169.50	2.91	136.37	(259.61)	2,062.40
2030	24.90	753.09	28.54%	23.35%	7.11	175.86	2.42	140.65	(257.34)	2,131.10
2031	20.36	780.97	19.44%	14.26%	3.96	111.36	1.99	143.25	(254.18)	2,137.48
2032	16.55	808.81	5.81%	0.63%	0.96	5.10	1.61	140.08	(249.97)	2,035.26
2033	13.36	836.77	5.79%	0.62%	0.77	5.17	1.31	133.12	(244.65)	1,930.98
2034	10.54	865.09	5.77%	0.60%	0.61	5.23	1.04	126.05	(238.58)	1,825.34
2035	8.14	893.76	5.75%	0.59%	0.47	5.28	0.81	118.91	(231.79)	1,719.01
2036	6.20	922.75	5.73%	0.58%	0.36	5.32	0.62	111.75	(224.47)	1,612.58
2037	4.67	952.16	5.71%	0.56%	0.27	5.35	0.47	104.61	(216.26)	1,507.03
2038	3.45	982.08	5.69%	0.55%	0.20	5.37	0.35	97.56	(207.61)	1,402.89
2039	2.49	1,012.61	5.67%	0.53%	0.14	5.39	0.25	90.63	(198.37)	1,300.94
2040	1.71	1,043.84	5.66%	0.52%	0.10	5.40	0.18	83.86	(188.81)	1,201.67
2041	1.10	1,075.82	5.64%	0.50%	0.06	5.42	0.12	77.30	(179.04)	1,105.52
2042	0.65	1,108.58	5.62%	0.49%	0.04	5.42	0.07	70.96	(169.05)	1,012.95
2043	0.34	1,142.16	5.60%	0.48%	0.02	5.43	0.04	64.87	(159.00)	924.30
2044	0.17	1,176.60	5.58%	0.46%	0.01	5.43	0.02	59.06	(148.88)	839.94
2045	0.07	1,212.00	5.57%	0.45%	-	5.43	0.01	53.55	(138.84)	760.09
2046	0.03	1,248.41	5.55%	0.43%	-	5.43	0.00	48.35	(128.93)	684.95
2047	0.01	1,285.88	5.53%	0.42%	-	5.43	0.00	43.47	(119.22)	614.63
2048	0.00	1,324.47	5.52%	0.41%	-	5.43	0.00	38.92	(109.77)	549.20
2049	0.00	1,364.20	5.50%	0.40%	-	5.43	0.00	34.70	(100.63)	488.70
2050	-	1,405.13	5.49%	0.39%	-	5.43	-	30.81	(91.84)	433.10
2051	-	1,447.28	5.47%	0.38%	-	5.43	-	27.25	(83.42)	382.36

¹ Payroll is assumed to increase 3.0% per year.

² Investment earnings are assumed to be 7.0% per year on the market value of assets.

SECTION IV. VALUATION EXHIBITS

EXHIBIT 20. PROJECTION OF SECURITY RATIO



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SECTION IV. VALUATION EXHIBITS

EXHIBIT 20. PROJECTION OF SECURITY RATIO (values)

Year Ending	Payroll ¹	EMPLOYER CONTRIBUTIONS			Accrued Liability	Security Ratio
		DB Rate	Contribs DB Plan	DB Fund Actuarial ²		
2012				\$1,328.75	\$2,811.40	47.26%
2013	\$ 470.69	30.09%	\$124.58	1,382.11	2,832.44	48.80%
2014	484.82	30.03%	127.61	1,470.68	2,850.35	51.60%
2015	499.36	29.67%	129.23	1,511.00	2,864.71	52.75%
2016	514.34	28.76%	127.96	1,547.91	2,874.91	53.84%
2017	529.77	28.66%	130.81	1,585.21	2,880.38	55.03%
2018	545.66	28.63%	134.04	1,623.35	2,880.83	56.35%
2019	562.03	28.61%	137.43	1,661.76	2,875.22	57.80%
2020	578.90	28.62%	140.99	1,699.75	2,862.12	59.39%
2021	596.26	28.62%	144.60	1,736.68	2,840.31	61.14%
2022	614.15	28.63%	148.34	1,772.36	2,808.89	63.10%
2023	632.57	28.64%	152.16	1,807.05	2,767.47	65.30%
2024	651.55	28.64%	156.14	1,841.24	2,715.69	67.80%
2025	671.10	28.64%	160.21	1,876.36	2,654.23	70.69%
2026	691.23	28.63%	164.47	1,913.78	2,583.51	74.08%
2027	711.97	28.62%	168.85	1,955.72	2,504.84	78.08%
2028	733.33	28.59%	173.38	2,004.64	2,419.73	82.85%
2029	755.33	28.57%	178.09	2,062.40	2,328.98	88.55%
2030	777.99	28.54%	182.97	2,131.10	2,233.52	95.41%
2031	801.33	19.44%	115.32	2,137.48	2,134.04	100.16%
2032	825.37	5.81%	6.06	2,035.26	2,031.41	100.19%
2033	850.13	5.79%	5.94	1,930.98	1,926.70	100.22%
2034	875.63	5.77%	5.83	1,825.34	1,820.58	100.26%
2035	901.90	5.75%	5.75	1,719.01	1,713.74	100.31%
2036	928.96	5.73%	5.67	1,612.58	1,606.75	100.36%
2037	956.83	5.71%	5.62	1,507.03	1,500.59	100.43%
2038	985.53	5.69%	5.57	1,402.89	1,395.81	100.51%
2039	1,015.10	5.67%	5.54	1,300.94	1,293.16	100.60%
2040	1,045.55	5.66%	5.50	1,201.67	1,193.14	100.71%
2041	1,076.92	5.64%	5.48	1,105.52	1,096.19	100.85%
2042	1,109.22	5.62%	5.46	1,012.95	1,002.77	101.02%
2043	1,142.50	5.60%	5.45	924.30	913.20	101.22%
2044	1,176.77	5.58%	5.44	839.94	827.85	101.46%
2045	1,212.08	5.57%	5.43	760.09	746.95	101.76%
2046	1,248.44	5.55%	5.43	684.95	670.68	102.13%
2047	1,285.89	5.53%	5.43	614.63	599.16	102.58%
2048	1,324.47	5.52%	5.43	549.20	532.44	103.15%
2049	1,364.20	5.50%	5.43	488.70	470.56	103.86%
2050	1,405.13	5.49%	5.43	433.10	413.49	104.74%
2051	1,447.28	5.47%	5.43	382.36	361.17	105.87%

¹ Payroll is assumed to increase 3.0% per year.

² Investment earnings are assumed to be 7.0% per year on the market value of assets.

APPENDIX A. SUMMARY OF PLAN PROVISIONS

The following description is only a brief summary of the more important provisions of the retirement plan. Actual plan provisions are contained in Chapter 8 of the Guam Code.

Membership Conditions and Exclusions: All employees of the Government of Guam hired on or before September 30, 1995 are required to participate as a condition of employment, except:

- a) Persons who are compensated on a fee basis;
- b) Independent contractors;
- c) Persons employed for a specific project;
- d) Persons employed in the Senior Citizens' Community Employment Program; and
- e) Persons with less than 20 years of service prior to September 30, 1995 who elect to transfer to the Government of Guam Defined Contribution Fund. Participants have an annual opportunity to transfer.

Membership is optional for:

- a) Temporary, seasonal, intermittent and part-time employees;
- b) Persons employed for a specific period of time and not domiciled in Guam; and
- c) Employees of a public corporation of the Government of Guam.

Membership is also applicable to members of the Legislature with special provisions for:

- a) The determination of average annual salary for pension computation purposes; and
- b) Contributions.

Pension Credits: Employees are entitled to pension credit for:

- a) Service rendered to the Government prior to May 1, 1951 when the Fund began operations.
- b) Service on or after May 1, 1951 for which contributions are required to be made by the employees.
- c) Casual or part-time employment under prescribed conditions for which contributions must be made.
- d) Unused and accumulated sick and annual (vacation) leaves with 12 days of service counted as a full month; 6 to 11 days, ½ month; and less than 6 days disregarded.
- e) For employees hired before June 1, 1989, pension credit is granted up to a maximum of 5 years for Federal service, provided the employee terminates membership in the Federal Civil Service Retirement Fund and makes a contribution to the Government of Guam Retirement Fund equal to the amount contributed by the member and his employer during the period which is equal in length to the period for which service credit is requested, and which ends on the member's termination date of such employment with interest from the date of such termination to the date of payment.
- f) For employees hired before June 1, 1989, educational leave time or periods of termination for educational training purposes, if contributions are made to the Fund with interest. Members who first joined the fund prior to January 31, 1987, may receive credit for up to the normal period of time required to complete degree without having been employed by the government prior to the period during which the degree was earned.

SECTION V. APPENDICES

- g) Military service prior to May 1, 1951, if not considered for any Federal Government Pension other than for disability. If entry into military service occurred after May 1, 1951, total pension credit is limited to 5 years in the aggregate, provided the employee was in the service of the Government of Guam at date of entry into military service and returned to the Government of Guam service within one year following discharge from military service under conditions other than dishonorable, or within 6 months after completion of education under the various education benefits programs for veterans; otherwise the total credit is limited to three years.

Schedule for Computing Service: The following schedule shall govern the computation of pension credit: 12 days or more during any month constitutes a month of service; 6 to 11 days, ½ month; less than 6 days is disregarded. Nine months or more during any year constitutes a year of service.

Vesting of Pension Credit: Vesting occurs after at least 5 years of service.

Upon separation from service, an employee may optionally leave the contribution credits in the Fund and qualify for a deferred retirement annuity, based upon the total pension credit. If the pension credit is 25 years or more, no refund of contributions is payable and the employee must accept a deferred retirement annuity.

Conditions for Service Retirement: With respect to any employee who originally became a member of the Fund prior to October 1, 1981:

- a) Such member may retire on a service retirement annuity at age 60 or over, or at age 55 in the case of a member of the uniformed personnel after at least 10 years of service. Upon retirement, a member of the uniformed personnel shall be considered one grade above that held at date of retirement.
- b) A member with at least 25 years of service may retire at any age on an unreduced retirement annuity.
- c) Any retired employee with at least 25 years of credit service shall be entitled to the full retirement annuity on and after September 30, 1981.
- d) Any member, active or inactive, may retire after 20 years of service, regardless of age. In such case, the retirement annuity shall be reduced ¼ of 1% for each month that the age of the member is less than 60 years (3% per year).

With respect to an employee who became a member of the Fund on or after October 1, 1981, and prior to August 22, 1984, the following provisions shall govern:

- a) Such member may retire on a service retirement annuity at age 60 or over, or at age 55 if a member of the uniformed personnel after at least 15 years of service and upon retirement shall be considered one rank grade above that held at such date.
- b) A member with at least 30 years of service shall be eligible for service retirement, regardless of age, without reduction for early retirement.
- c) Any member, whether in an active or inactive status, may retire after 25 years of service, at any age, on an annuity reduced ¼ of 1% per month (3% per year) for each month member's age is less than 60.

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With respect to any employee becoming a member of the Fund on or after August 22, 1984:

- a) Such member may retire on a service retirement annuity at age 65 or over, or at age 60 in the case of a member of the uniformed personnel after at least 15 years of service. Upon retirement, a member of the uniformed personnel shall be considered one grade above that held at date of retirement.
- b) A member with at least 30 years of service may retire at any age on an unreduced retirement annuity.
- c) Any member, active or inactive, may retire after 25 years of service, regardless of age. In such case, the retirement annuity shall be reduced $\frac{1}{4}$ of 1% for each month that the age of the member is less than 65 years (3% per year).

Amount of Service Retirement Annuity: A basic annuity of 2.00% of “average annual salary” for each of the first 10 years of credited service; and 2.5% of “average annual salary” for each full year of pension credit above 10 years, plus twenty dollars (\$20.00) multiplied by years of credited service reduced by an amount equal to one hundredth of one percent (.01%) of said amount for each one dollar (\$1.00) that a member’s average annual salary exceeds the amount of six thousand dollars (\$6,000).

The minimum amount of service retirement annuity payable by the Fund is \$1,200 per year. The maximum retirement annuity is 85% of “average annual salary.”

Average Annual Salary: Average of three highest annual salaries received by a member during the entire period of pension credit, or \$6,000, whichever is greater.

The annual salary of the member shall include the basic rate of salary on which contributions were made by the member and any salary on which the member made contributions as required under GCA, Section 8136(a). Effective October 1, 1986, salary can include payment for unused annual leave upon retirement.

In case of members of the Legislature, the average annual salary is the salary of the Director of Administration at the member’s date of retirement, or the average of the three highest annual salaries received by the member during the period of membership credit, whichever is greater.

Automatic Increase in Annuity: Effective July 1, 1984, any member retiring from service and entitled to benefits after September 1, 1972, is to receive each year, on the anniversary date of retirement, an increment of \$600 if the annual annuity is \$3,500 or less; \$400 if the annuity is between \$3,500 and \$6,300 per year; \$300 if the annuity is between \$6,300 and \$10,100; and \$200 if the annuity exceeds \$10,100 per year.

Disability Retirement: Upon total and permanent disability due to physical or mental causes, an employee under age 65 is entitled to a disability retirement annuity. For employees hired prior to August 22, 1984, the amount of the disability retirement annuity will be $66\frac{2}{3}\%$ of the employee’s salary in effect on the date of disability. Subsequent employees will have an annuity amount based on $66\frac{2}{3}\%$ of the average of the highest three years of salary. If the disability was not due to occupational causes, the employee must have Government of Guam service credit of at least six years, or five years in the case of terminal illness, in order to qualify, except that new members since May 28, 1985, may not retire if a disability arises from impairment or conditions existing prior to employment.

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A disability retirement annuitant must submit to a medical examination at least once a year during the first five years of disability, and at least once every three years thereafter, by a physician or physicians designated by the Board in order to establish continuing disability and entitlement to benefits. Should a disability annuitant resume gainful employment in a position other than the particular job in which he was engaged when declared disabled, the disability retirement benefit shall continue as initially determined.

A member receiving disability retirement benefits since December 1, 1972, is entitled to receive on the anniversary date of retirement, an annual increase of \$300 if the benefit is \$3,000 per year or less; \$250 per year where the annuity is between \$3,000 and \$6,000 per year; \$200 per year where the annuity is between \$6,000 and \$10,000 per year; and \$100 if the annuity exceeds \$10,000 per year.

Re-entry Into Service: A member on retirement who re-enters services as an employee eligible for membership shall have the annuity suspended during the period of employment without losing rights to automatic increases in the retirement annuity during the period of re-employment. This provision does not apply to Department of Education employees who occupy positions dealing with the Chamorro Language and Culture Program in Guam schools, persons employed as classroom teachers, guidance or health counselors when critical need arises, nor elected officials.

Benefits to Survivors: Benefits are payable to a surviving spouse and children under age 21, upon the death of a member while in service after at least three years of service, or occurring while on retirement. The benefit to children of an annuitant or member whose death occurs while in service, after at least three years of service is payable until age 24, if they are full-time students in an accredited educational institution and for disabled children regardless of age, if disability occurred before age 21.

If only a spouse survives the active or retired member, the annuity payable is 60% of the service or disability retirement annuity earned by the member, subject to a minimum of \$1,200 per year.

The annuity to a child is \$2,880 per year, subject to a maximum payment to five or more minor children of \$14,400 per year. The term "child" or "children" includes any natural child or adopted child under age 21, or any permanently disabled child whose incapacity began before the child attained age 21.

A survivor annuitant is entitled to an automatic increase in annuity each year on the anniversary date of the annuity of \$600 if the annuity is \$3,500 per year or less; \$400 if the annuity is between \$3,500 and \$6,300 per year; \$300 if the annuity is between \$6,300 and \$10,100; and \$200 if the annuity is more than \$10,100 per year.

A surviving spouse or minor child surviving the member is entitled, in addition to the above, a death benefit of \$1,000 payable in a lump sum.

A survivor's annuity terminates upon death or re-marriage under the age of 40, attainment of age 21 of the child, or the termination of the incapacity of a disabled child.

Optional Privilege at Retirement: Upon retirement from service, any unmarried employee, if in good health as determined by medical examination, may elect to receive, on an actuarial equivalent basis in lieu of the full retirement annuity, a reduced retirement annuity payable during the

SECTION V. APPENDICES

annuitant's lifetime, plus an annuity to a designated beneficiary to become payable at death of the annuitant. The annuity to the beneficiary is to be paid at the same rate and under the same conditions that apply to a survivor of a married member whose death occurs while in service.

Death Benefit – Active and Retired Members Without Survivors: Upon death of a member while in service, leaving no survivors eligible for annuities, the designated beneficiary or estate is entitled to a refund of the contribution credits, plus interest, together with a death benefit of \$1,000 payable in a lump sum.

Upon death of a retired member, if no survivors' annuities are payable, the death benefit to a designated beneficiary or the estate of the member consists of the excess, if any, of: (1) the total contribution credits of the member at retirement, plus interest, over (2) the total amount of annuity payments made to the retired member, plus the sum of \$1,000.

Death Benefit – Inactive Members: Upon the death of an inactive member with at least 20 years of pension credit, and survived by a spouse or minor children, the following benefit options are provided: (a) the surviving spouse or children, as the case may be, may elect to receive the annuities prescribed if the death of a member occurs while in service; or (b) a refund of the deceased member's total contribution credits, plus interest.

Refund of Members' Contributions: Upon complete separation from service, or transfer to the Government of Guam Defined Contribution Fund, a member with less than 25 years of pension credit may receive a refund of the total contributions, plus interest (except that no interest is payable if the total pension credit is less than one year).

Contributions by Members: Each member shall contribute to the Fund 9½% of salary earned and accruing after October 1, 1997; and at the member's option, 10½% of non-base pay subsequent to October 1, 1997.

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APPENDIX B. ACTUARIAL COST METHOD AND ASSUMPTIONS

	September 30, 2012		September 30, 2011	
Actuarial Cost Method	Entry Age Normal		Entry Age Normal	
Interest Rate	7.00%		7.00%	
Salary Increases	<u>Service</u>	<u>% Increase</u>	<u>Service</u>	<u>% Increase</u>
	0 – 5	7.5%	0 – 5	8.5%
	6 – 10	6.0%	6 – 10	7.0%
	11 – 15	5.0%	11 – 15	6.0%
	16 – 20	4.5%	16 – 20	5.0%
	Over 20	4.5%	Over 20	4.0%
Total Payroll Growth (DB and DC)	3.00%		3.50%	
Cost of Living Adjustment	Specified in Plan		Specified in Plan	
Mortality	RP-2000 Combined Healthy table +4 for males +1 for females No provision was made for future mortality improvement.		RP-2000 Combined Healthy table +3 for males +1 for females No provision was made for future mortality improvement.	
Disability				
Incidence	1974-78 SOA LTD Non-Jumbo, with rates reduced by 50%		1974-78 SOA LTD Non-Jumbo	
Post-disability mortality	RP 2000 Disability male/female tables		RP 2000 Disability male/female tables	
Withdrawal Rates	Service-based rates (see attached)		Service-based rates (see attached)	
Retirement Age	40% assumed to retire at earliest eligibility for unreduced benefits.		50% assumed to retire at earliest eligibility for unreduced benefits.	
	15% per year thereafter until age 65		20% per year thereafter until age 70	
	20% per year thereafter until age 70		100% at age 70	
	100% at age 70			

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	September 30, 2012	September 30, 2011
Return of Contributions	<p>100% of any current employees who withdraw before retirement and who have less than 20 years of service are assumed to elect a return of contributions</p> <p>Terminated or inactive members with at least 5 years of service who have not withdrawn their contributions are assumed to retire upon eligibility for unreduced benefits. All other employees who have previously withdrawn are assumed to elect a return of contributions.</p> <p>Contributions earn 4.5% interest</p>	<p>100% of any current employees who withdraw before retirement and who have less than 20 years of service are assumed to elect a return of contributions</p> <p>Terminated or inactive members with at least 5 years of service who have not withdrawn their contributions are assumed to retire upon eligibility for unreduced benefits. All other employees who have previously withdrawn are assumed to elect a return of contributions.</p> <p>Contributions earn 4.5% interest</p>
Marital Status	<p>Retiree data included spouse information. For active employees, 75% are assumed to have spouses at retirement. The assumed age difference is 3 years (+3 for a male spouse; -3 for a female spouse).</p>	<p>Retiree data included spouse information. For active employees, 75% are assumed to have spouses at retirement. The assumed age difference is 3 years (+3 for a male spouse; -3 for a female spouse).</p>
Sick Leave Adjustments	<p>Assumed to add 1.5 years of service and increase average earnings by 10% at retirement</p>	<p>Assumed to add 1.5 years of service and increase average earnings by 10% at retirement</p>
Administrative Expenses	<p>\$6,663,000 per year (equal to budgeted expense for year ending 9/30/13), allocated 78% to DB and 22% to DC</p>	<p>\$6,638,000 per year (equal to budgeted expense for year ending 9/30/12), allocated 79% to DB and 21% to DC</p>
Survivor Benefit – Minor Children	<p>Assumed to increase value of retirement benefits by 0.67% and survivor benefits by 20% for active members</p>	<p>Assumed to increase value of retirement benefits by 0.67% and survivor benefits by 20% for active members</p>
Asset Valuation Method	<p>3-year phase-in of gains/losses relative to interest rate assumption</p>	<p>3-year phase-in of gains/losses relative to interest rate assumption</p>
Data Inconsistencies	<p>None</p>	<p>None</p>

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Probabilities of Separation from Active Service
(per 100 working at each age)

MALE					FEMALE				
Age	Death	Disability	Service	Withdrawal	Age	Death	Disability	Service	Withdrawal
20	0.04	0.05	0	15.0	20	0.02	0.05	0	15.0
21	0.04	0.05	1	14.0	21	0.02	0.05	1	14.0
22	0.04	0.05	2	13.0	22	0.02	0.05	2	13.0
23	0.04	0.05	3	12.0	23	0.02	0.05	3	12.0
24	0.04	0.05	4	11.0	24	0.02	0.05	4	11.0
25	0.04	0.05	5	10.0	25	0.02	0.05	5	10.0
26	0.04	0.05	6	9.0	26	0.02	0.05	6	9.0
27	0.05	0.05	7	8.0	27	0.02	0.05	7	8.0
28	0.06	0.05	8	7.0	28	0.02	0.05	8	7.0
29	0.06	0.05	9	6.0	29	0.03	0.05	9	6.0
30	0.07	0.05	10	5.0	30	0.03	0.05	10	5.0
31	0.08	0.05	11	4.5	31	0.04	0.05	11	4.5
32	0.08	0.05	12	4.0	32	0.04	0.05	12	4.0
33	0.09	0.05	13	3.5	33	0.04	0.05	13	3.5
34	0.10	0.05	14	3.0	34	0.05	0.05	14	3.0
35	0.10	0.05	15	2.5	35	0.05	0.05	15	2.5
36	0.11	0.05	16	2.0	36	0.06	0.05	16	2.0
37	0.11	0.05	17	2.0	37	0.06	0.05	17	2.0
38	0.12	0.05	18	2.0	38	0.06	0.05	18	2.0
39	0.13	0.05	19	2.0	39	0.07	0.05	19	2.0
40	0.14	0.10	20 & over	2.0	40	0.08	0.10	20 & over	2.0
41	0.15	0.10			41	0.09	0.10		
42	0.16	0.10			42	0.09	0.10		
43	0.17	0.10			43	0.10	0.10		
44	0.19	0.10			44	0.11	0.10		
45	0.20	0.18			45	0.12	0.18		
46	0.21	0.18			46	0.13	0.18		
47	0.24	0.18			47	0.14	0.18		
48	0.27	0.18			48	0.16	0.18		
49	0.29	0.18			49	0.17	0.18		
50	0.32	0.32			50	0.19	0.32		
51	0.36	0.32			51	0.20	0.32		
52	0.42	0.32			52	0.22	0.32		
53	0.47	0.32			53	0.24	0.32		
54	0.53	0.32			54	0.27	0.32		
55	0.59	0.53			55	0.31	0.53		
56	0.67	0.53			56	0.35	0.53		
57	0.77	0.53			57	0.39	0.53		
58	0.88	0.53			58	0.44	0.53		
59	1.00	0.53			59	0.51	0.53		
60	1.13	0.76			60	0.58	0.76		
61	1.27	0.76			61	0.67	0.76		
62	1.44	0.76			62	0.76	0.76		
63	1.61	0.76			63	0.86	0.76		
64	1.79	0.76			64	0.97	0.76		

This work product was prepared solely for the plan sponsor for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

SECTION V. APPENDICES

APPENDIX C. SUMMARY OF PARTICIPANT DATA

Active Non-Uniformed

Age	COUNT			ANNUAL SALARIES		
	Males	Females	Total	Males	Females	Total
Under 20	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-
25 – 29	-	-	-	-	*	*
30 – 34	-	1	1	*	*	*
35 – 39	51	31	82	\$ 1,955,644	\$ 1,362,579	\$ 3,318,223
40 – 44	185	224	409	8,314,067	10,233,927	18,547,994
45 – 49	320	372	692	15,688,491	18,114,137	33,802,628
50 – 54	326	358	684	15,674,060	18,245,438	33,919,498
55 – 59	182	284	466	9,839,776	14,680,195	24,519,971
60 – 64	98	170	268	5,315,099	8,425,847	13,740,946
65 – 69	41	72	113	2,639,698	3,662,174	6,301,872
70 & Over	<u>24</u>	<u>28</u>	<u>52</u>	<u>1,249,678</u>	<u>1,438,161</u>	<u>2,687,839</u>
Total	1,227	1,540	2,767	\$60,676,513	\$76,162,458	\$136,838,971

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Age	SERVICE									Total
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20	-	-	-	-	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-	-	-	-	-
30 – 34	1	-	-	-	-	-	-	-	-	1
35 – 39	1	11	8	50	12	-	-	-	-	82
40 – 44	9	12	14	166	195	13	-	-	-	409
45 – 49	10	11	16	112	336	186	21	-	-	692
50 – 54	10	16	15	97	250	184	107	5	-	684
55 – 59	8	4	8	64	184	111	63	23	1	466
60 – 64	2	3	6	38	116	53	33	9	8	268
65 – 69	-	1	-	18	44	22	16	8	4	113
70 & Over	<u>1</u>	<u>1</u>	<u>-</u>	<u>5</u>	<u>22</u>	<u>14</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>52</u>
Total	42	59	67	550	1,159	583	244	47	16	2,767

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SECTION V. APPENDICES

Active Uniformed

Age	COUNT			ANNUAL SALARIES		
	Males	Females	Total	Males	Females	Total
Under 20	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-
30 – 34	-	-	-	-	-	-
35 – 39	13	-	13	*	-	*
40 – 44	69	2	71	\$ 4,360,944	*	\$ 4,360,944
45 – 49	108	7	115	7,953,561	*	7,953,561
50 – 54	87	3	90	6,812,675	*	6,812,675
55 – 59	20	-	20	1,377,573	-	1,377,573
60 – 64	11	-	11	*	-	*
65 – 69	2	-	2	*	-	*
70 & Over	<u>1</u>	<u>-</u>	<u>1</u>	<u>*</u>	<u>-</u>	<u>*</u>
Total	311	12	323	\$20,504,753	*	\$20,504,753

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Age	SERVICE									Total
	0 - 4	5 – 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20	-	-	-	-	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-	-	-	-	-
30 – 34	-	-	-	-	-	-	-	-	-	-
35 – 39	-	-	2	7	4	-	-	-	-	13
40 – 44	-	-	1	20	47	3	-	-	-	71
45 – 49	1	-	-	10	55	46	3	-	-	115
50 – 54	-	-	-	6	25	36	22	1	-	90
55 – 59	-	-	-	1	6	5	5	3	-	20
60 – 64	-	-	-	1	7	1	2	-	-	11
65 – 69	-	-	-	-	-	1	1	-	-	2
70 & Over	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>
Total	1	0	3	45	144	93	33	4	-	323

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SECTION V. APPENDICES

Active Total

Age	COUNT			ANNUAL SALARIES		
	Males	Females	Total	Males	Females	Total
Under 20	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-
30 – 34	-	1	1	*	*	*
35 – 39	64	31	95	\$ 1,955,644	\$ 1,362,579	\$ 3,318,223
40 – 44	254	226	480	12,675,011	10,233,927	22,908,938
45 – 49	428	379	807	23,642,052	18,114,137	41,756,189
50 – 54	413	361	774	22,486,735	18,245,438	40,732,173
55 – 59	202	284	486	11,217,349	14,680,195	25,897,544
60 – 64	109	170	279	5,315,099	8,425,847	13,740,946
65 – 69	43	72	115	2,639,698	3,662,174	6,301,872
70 & Over	<u>25</u>	<u>28</u>	<u>53</u>	<u>1,249,678</u>	<u>1,438,161</u>	<u>2,687,839</u>
Total	1,538	1,552	3,090	\$81,181,266	\$76,162,458	\$157,343,724

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Age	SERVICE									Total
	0 - 4	5 – 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20	-	-	-	-	-	-	-	-	-	-
20 – 24	-	-	-	-	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-	-	-	-	-
30 – 34	1	-	-	-	-	-	-	-	-	1
35 – 39	1	11	10	57	16	-	-	-	-	95
40 – 44	9	12	15	186	242	16	-	-	-	480
45 – 49	11	11	16	122	391	232	24	-	-	807
50 – 54	10	16	15	103	275	220	129	6	-	774
55 – 59	8	4	8	65	190	116	68	26	1	486
60 – 64	2	3	6	39	123	54	35	9	8	279
65 – 69	-	1	-	18	44	23	17	8	4	115
70 & Over	<u>1</u>	<u>1</u>	<u>-</u>	<u>5</u>	<u>22</u>	<u>15</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>53</u>
Total	43	59	70	595	1,303	676	277	51	16	3,090

This work product was prepared solely for the plan sponsor for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

SECTION V. APPENDICES

Service Retirees

Age	COUNT			ANNUAL BENEFITS		
	Males	Females	Total	Males	Females	Total
Under 25	-	1	1	-	*	*
25 – 29	-	-	-	-	-	-
30 – 34	-	-	-	-	-	-
35 – 39	-	-	-	-	-	-
40 – 44	-	-	-	*	-	*
45 – 49	19	8	27	*	*	*
50 – 54	136	92	228	\$ 4,885,835	\$ 2,806,458	\$ 7,692,293
55 – 59	382	332	714	14,779,784	10,608,615	25,388,399
60 – 64	558	525	1,083	19,974,666	16,182,730	36,157,396
65 – 69	475	509	984	16,392,696	14,821,639	31,214,335
70 – 74	376	385	761	12,908,226	10,410,094	23,318,320
75 – 79	279	312	591	7,946,600	7,491,516	15,438,116
80 – 84	168	198	366	4,298,057	4,576,000	8,874,057
85 – 89	86	96	182	1,893,965	1,873,932	3,767,897
90 & Over	<u>14</u>	<u>35</u>	<u>49</u>	<u>*</u>	<u>645,620</u>	<u>645,620</u>
Total	2,493	2,493	4,986	\$83,079,829	\$69,416,604	\$152,496,433

* Not shown if less than 20 members. The totals only sum the cells that are displayed. Payees receiving benefits under Qualified Domestic Relations Orders (QDROs) are included with service retirees.

Age	ANNUAL BENEFIT LEVEL									Total
	<\$5k	\$5-10k	\$10-15k	\$15-20k	\$20-25k	\$25-30k	\$30-40k	\$40-50k	\$50k+	
Under 40	-	-	-	-	1	-	-	-	-	1
40 – 44	-	-	-	-	-	-	-	-	-	-
45 – 49	-	1	1	5	2	7	5	3	3	27
50 – 54	-	3	10	16	39	30	69	34	27	228
55 – 59	1	6	32	43	88	115	194	132	103	714
60 – 64	3	14	66	85	130	191	306	176	112	1,083
65 – 69	1	17	68	101	153	172	257	123	92	984
70 – 74	1	22	85	102	107	120	164	74	86	761
75 – 79	-	38	93	110	90	81	106	38	35	591
80 – 84	-	10	80	98	51	37	47	20	23	366
85 – 89	-	2	58	55	19	24	14	3	7	182
90 & Over	<u>-</u>	<u>1</u>	<u>21</u>	<u>14</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>49</u>
Total	6	114	514	629	684	780	1,165	605	489	4,986

This work product was prepared solely for the plan sponsor for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

SECTION V. APPENDICES

Disabled Retirees

Age	COUNT			ANNUAL BENEFITS		
	Males	Females	Total	Males	Females	Total
Under 25	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-
30 – 34	-	-	-	-	-	-
35 – 39	1	-	1	*	-	*
40 – 44	3	4	7	*	*	*
45 – 49	9	3	12	*	*	*
50 – 54	14	13	27	*	*	*
55 – 59	27	24	51	\$ 643,307	\$ 483,984	\$ 1,127,291
60 – 64	33	35	68	785,706	694,547	1,480,253
65 – 69	27	31	58	643,768	667,036	1,310,804
70 – 74	24	23	47	466,210	433,862	900,072
75 – 79	14	14	28	*	*	*
80 – 84	7	16	23	*	*	*
85 – 89	1	8	9	*	*	*
90 & Over	-	-	-	-	-	-
Total	160	171	331	\$2,538,991	\$2,279,429	\$4,818,420

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Age	ANNUAL BENEFIT LEVEL									Total
	<\$5k	\$5-10k	\$10-15k	\$15-20k	\$20-25k	\$25-30k	\$30-40k	\$40-50k	\$50k+	
Under 40	-	-	-	1	-	-	-	-	-	1
40 – 44	-	-	-	6	-	-	1	-	-	7
45 – 49	-	-	1	3	2	3	3	-	-	12
50 – 54	-	-	1	10	8	6	2	-	-	27
55 – 59	-	-	5	19	13	6	5	3	-	51
60 – 64	-	-	8	28	15	10	4	2	1	68
65 – 69	-	-	9	17	12	11	8	1	-	58
70 – 74	-	-	8	21	14	2	2	-	-	47
75 – 79	-	-	5	8	6	6	3	-	-	28
80 – 84	-	-	12	5	4	1	1	-	-	23
85 – 89	-	-	7	2	-	-	-	-	-	9
90 & Over	-	-	-	-	-	-	-	-	-	-
Total	-	-	56	120	74	45	29	6	1	331

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SECTION V. APPENDICES

Surviving Spouses and Child Pensioners

Age	COUNT			ANNUAL BENEFITS		
	Males	Females	Total	Males	Females	Total
Under 25	119	122	241	\$ 342,720	\$ 354,997	\$ 697,717
25 – 29	1	1	2	*	*	*
30 – 34	4	7	11	*	*	*
35 – 39	3	8	11	*	*	*
40 – 44	3	30	33	*	407,734	407,734
45 – 49	7	39	46	*	504,743	504,743
50 – 54	8	72	80	*	1,201,629	1,201,629
55 – 59	13	121	134	*	2,079,806	2,079,806
60 – 64	29	185	214	411,996	3,007,162	3,419,158
65 – 69	35	186	221	498,167	2,993,288	3,491,455
70 – 74	52	160	212	765,979	2,547,264	3,313,243
75 – 79	39	199	238	517,505	2,780,325	3,297,830
80 – 84	44	162	206	635,738	2,185,041	2,820,779
85 – 89	36	103	139	523,334	1,316,887	1,840,221
90 & Over	<u>6</u>	<u>44</u>	<u>50</u>	<u>*</u>	<u>555,471</u>	<u>555,471</u>
Total	399	1,439	1,838	\$ 3,695,439	\$ 19,934,347	\$ 23,629,786

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Surviving Spouses Only

Age	ANNUAL BENEFIT LEVEL									Total
	<\$5k	\$5-10k	\$10-15k	\$15-20k	\$20-25k	\$25-30k	\$30-40k	\$40-50k	\$50k+	
Under 40	-	6	1	1	1	2-	-	-	-	11
40 – 44	-	6	12	10	1	1	-	-	-	30
45 – 49	-	11	17	7	-	1	2	-	-	38
50 – 54	-	14	21	17	19	4	1	-	1	77
55 – 59	-	14	51	33	14	7	7	2	1	129
60 – 64	-	26	97	42	28	9	11	1	-	214
65 – 69	-	26	96	52	23	14	6	1	-	218
70 – 74	-	33	98	41	20	8	7	3	1	211
75 – 79	-	52	123	36	12	10	4	1	-	238
80 – 84	-	32	127	30	10	4	1	2	-	206
85 – 89	-	19	99	10	8	2	1	-	-	139
90 & Over	<u>-</u>	<u>11</u>	<u>33</u>	<u>4</u>	<u>1</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>50</u>
Total	-	250	775	283	137	62	41	10	3	1,561

This work product was prepared solely for the plan sponsor for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

SECTION V. APPENDICES

Inactive and Terminated Members Who are Assumed Not to Withdraw Contributions

Age	COUNT			ANNUAL BENEFITS		
	Males	Females	Total	Males	Females	Total
Under 25	-	-	-	-	-	-
25 – 29	-	-	-	-	-	-
30 – 34	-	-	-	-	-	-
35 – 39	2	1	3	*	*	*
40 – 44	19	14	33	*	*	*
45 – 49	18	16	34	*	*	*
50 – 54	22	14	36	\$322,921	*	\$322,921
55 – 59	12	12	24	*	*	*
60 – 64	10	12	22	*	*	*
65 – 69	1	3	4	*	*	*
70 – 74	1	-	1	*	-	*
75 – 79	2	-	2	*	-	*
80 – 84	-	2	2	-	*	*
85 – 89	-	-	-	-	-	-
90 & Over	-	-	-	-	-	-
Total	87	74	161	\$322,921	*	\$322,921

* Not shown if less than 20 members. The totals only sum the cells that are displayed.

Age	ANNUAL BENEFIT LEVEL									Total
	<\$5k	\$5-10k	\$10-15k	\$15-20k	\$20-25k	\$25-30k	\$30-40k	\$40-50k	\$50k+	
Under 40	1	1	1	-	-	-	-	-	-	3
40 – 44	7	13	5	6	2	-	-	-	-	33
45 – 49	7	9	2	8	3	4	1	-	-	34
50 – 54	2	10	8	6	7	2	1	-	-	36
55 – 59	3	6	7	3	-	2	1	1	1	24
60 – 64	3	12	1	2	3	1	-	-	-	22
65 – 69	1	2	-	-	1	-	-	-	-	4
70 – 74	1	-	-	-	-	-	-	-	-	1
75 – 79	-	2	-	-	-	-	-	-	-	2
80 – 84	-	-	1	-	1	-	-	-	-	2
85 – 89	-	-	-	-	-	-	-	-	-	-
90 & Over	-	-	-	-	-	-	-	-	-	-
Total	25	55	25	25	17	9	3	1	1	161

This work product was prepared solely for the plan sponsor for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

APPENDIX D. GLOSSARY OF KEY TERMS

Actuarial Accrued Liability. The Present Value of Future Benefits allocated to past service in accordance with the actuarial cost method.

Actuarial Cost Method. A method of allocating the present value of benefits to past and future periods. Actuarial cost methods take into consideration the effect of wage inflation.

Actuarial Gains and Losses. Changes to the Actuarial Accrued Liability due to deviations from the actuarial assumptions. These can include gains and losses from investments, employee turnover, disability, retirement, mortality, and administrative expenses.

Actuarial Value of Assets. A method of valuing Fund assets that may smooth gains and losses that occur in the market value over a period of time.

GASB. Government Accounting Standards Board. GASB No. 25 and No. 27 are accounting standards issued by GASB that require certain items be disclosed in the Fund's financial statements.

Normal Cost. The value of benefits earned for one year of service. The normal cost is calculated in accordance with the actuarial cost method. The accumulation of all normal costs assigned to past service equals the Actuarial Accrued Liability.

Present Value of Benefits. The sum of all benefits expected to be paid in the future by the retirement system, with the payments discounted to the present using the valuation interest rate. This includes benefits to be earned in the future for current employees.

Present Value of Future Normal Cost. The sum of all future normal costs expected for current employees, with the costs discounted back to the present using the valuation interest rate.

Security Ratio. The percentage of the Actuarial Accrued Liability that is funded by the Fund assets. A fully funded plan will have a security ratio of 100%.

Unfunded Actuarial Accrued Liability. The dollar value of the Actuarial Accrued Liability that exceeds the value of the Fund assets. A fully funded plan will have no unfunded actuarial accrued liability.