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## Government of Guam Retirement Fund

Actuarial Valuation as of September 30, 2011

Prepared by:

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March 22, 2012

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**Government of Guam Retirement Fund –  
Actuarial Valuation as of September 30, 2011**

At the request of the Trustees, we have made an actuarial valuation of the Government of Guam Retirement Fund as of September 30, 2011. 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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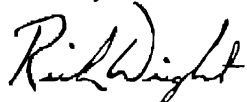
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The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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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**TABLE OF CONTENTS**

<b>Section</b>	<b>Page</b>
<b>I VALUATION SUMMARY</b>	
Introduction .....	1
Highlights .....	1
Results of Valuation .....	3
5-Year Historical Summary .....	4
Actuarial Assumptions .....	5
Alternative Funding Strategies .....	6
<b>II FUND ASSETS</b>	
Exhibit 1. Summary of DB Plan Assets .....	7
Exhibit 2. DB Plan Asset Allocation .....	8
Exhibit 3. Changes in DB Plan Assets .....	9
Exhibit 4. Actuarial Value of Assets .....	10
Exhibit 5. Historical Returns on DB Plan Assets .....	11
<b>III MEMBERSHIP DATA</b>	
Exhibit 6. Active Employees .....	12
Exhibit 7. Active Employees by Agency .....	13
Exhibit 8. Retired Employees .....	14
Exhibit 9. Terminated and Inactive Members .....	15
Exhibit 10. Reconciliation of Membership Data .....	16
<b>IV VALUATION EXHIBITS</b>	
Exhibit 11. Actuarial Accrued Liability .....	17
Exhibit 12. Calculation of Unfunded Actuarial Accrued Liability .....	18
Exhibit 13. Calculation of Actuarial Gain/Loss .....	19
Exhibit 14. Normal Cost .....	20
Exhibit 15. Amortization of Unfunded Actuarial Accrued Liability .....	21
Exhibit 16. Contribution Requirements .....	22
Exhibit 17. GASB No. 25 Schedule of Funding Progress .....	23
Exhibit 18. GASB No. 25 Schedule of Employer Contributions .....	24
Exhibit 19. Projection of Contribution Rate .....	25-26
Exhibit 20. Projection of Security Ratio .....	27-28
<b>V APPENDICES</b>	
Appendix A. Summary of Pension Plan .....	29-33
Appendix B. Actuarial Cost Method and Assumptions .....	34-36
Appendix C. Summary of Participant Data .....	37-43
Appendix D. Glossary of Key Terms .....	44

**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 **30.76%** of payroll. Of this amount, 24.33% is for the unfunded liability of the defined benefit (DB) plan, 3.00% is for the normal cost of the DB plan, and 3.43% is for contributions and expenses for the defined contribution (DC) plan.

The primary reasons for the increase in the contribution rate are an amendment increasing survivor and child annuities and the recognition of 1/3<sup>rd</sup> of the investment loss from the 2010-11 fiscal year. The increase was partially offset by a higher than expected increase in total payroll.

Contribution rate from 9/30/10 actuarial valuation	30.09%
Increase to survivor/child annuities	0.95%
2008-09 investment gain (final 1/3 <sup>rd</sup> recognition) *	(0.01%)
2009-10 investment gain (second 1/3 <sup>rd</sup> recognition) *	(0.29%)
2010-11 investment loss (first 1/3 <sup>rd</sup> recognition) *	0.50%
Total payroll increase of 7.5% (vs. assumption of 3.5%)	(0.99%)
Assumption change for inactive members	0.05%
Other factors	<u>0.46%</u>
Contribution rate in 9/30/11 actuarial valuation	30.76%

\* 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 2011-12 fiscal year is 28.30%.
- The defined benefit payroll for the 2010-11 fiscal year was \$179.0 million compared with \$175.8 million for the 2009-10 fiscal year. The total defined benefit and defined contribution payroll for the 2010-11 fiscal year, was \$461.2 million compared with \$429.0 million for the 2009-10 fiscal year, an increase of 7.5%. This is higher than the long term assumption of 3.5% annual growth in total payroll. If total payroll had increased by 3.5%, the required contribution rate would have been 31.75%.

**SECTION I. VALUATION SUMMARY**

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- Based on the audited financial statements, we calculated an investment return on the total market value of assets of -1.1% for the fiscal year ending September 30, 2011. The average annual return on the market value of assets for the last 5 fiscal years has been 3.0%. The investment return on the actuarial value of assets, which recognizes investment gains and losses over a 3 year period, was 5.9%.
- The survivor annuity benefit payable to a surviving spouse was increased from 50% to 60% of the member's retirement annuity, and the annuity payable to a surviving child was increased from \$2,160 to \$2,880 per year. These increases were effective October 1, 2011, and applied both to survivor/child annuity benefits in pay status and to benefits that will become payable in the future. This change increased the actuarial accrued liability by \$64.2 million.
- We have updated the valuation procedure for certain inactive members. Previously, all terminated and inactive members were assumed to elect to withdraw their contributions. Starting with this valuation, we assume that terminated and inactive members with at least 5 years of service who have not withdrawn their contributions and for whom sufficient earnings data are available to calculate their benefits, will not withdraw their contributions and will retire upon their first eligibility for unreduced benefits. All other terminated and inactive members are assumed to elect to withdraw their contributions. This change increased the actuarial accrued liability by \$3.4 million.
- The unfunded actuarial accrued liability increased from \$1.545 billion as of September 30, 2010, to \$1.643 billion as of September 30, 2011. The primary cause of the increase was the increase in survivor and child annuity benefits. In addition, the return on the actuarial value of assets of 5.9% was lower than the 7% assumption. The payment required to amortize the unfunded actuarial accrued liability under GCA Section 8137 has increased from \$105.5 million to \$116.2 million. The payment as a percentage of payroll has increased from 23.75% to 24.33%.

## SECTION I. VALUATION SUMMARY

## RESULTS OF VALUATION

	9/30/2011	9/30/2010		
<b>Participant Counts</b>				
Active				
– Non-Uniformed (DB)	3,015	3,237		
– Uniformed (DB)	<u>346</u>	<u>357</u>		
– Total (DB)	3,361	3,594		
Retired (DB)	<u>7,117</u>	<u>7,082</u>		
Total Actives and Retirees (DB)	10,478	10,676		
Inactive and Terminated Members assumed to withdraw contributions (DB)	5,673	6,466		
Inactive and Terminated Members <u>not</u> assumed to withdraw contributions (DB)	160	-		
Active Participants (DC)	7,690	7,471		
	<b>(\$millions)</b>	<b>(\$millions)</b>		
<b>Actual Payroll for Prior Fiscal Year</b>				
Defined benefit (DB) payroll	\$179.0	\$175.8		
Total payroll (DB and DC)	461.2	429.0		
<b>Expected Payroll for Next Fiscal Year</b>				
Defined benefit (DB) payroll	\$178.4	\$177.8		
Total payroll (DB and DC)	477.4	444.1		
<b>Financial Status</b>				
Actuarial accrued liability	\$2,906.9	\$2,790.5		
Actuarial value of assets	<u>1,264.1</u>	<u>1,245.9</u>		
Unfunded actuarial accrued liability (UAAL)	\$1,642.8	\$1,544.7		
Security ratio	43.49%	44.65%		
	<b>% of DB Payroll</b>	<b>% of DB Payroll</b>		
<b>Normal Cost</b>				
Total normal cost	\$ 31.3*	17.52%	\$ 30.4*	17.07%
Estimated employee contributions	<u>(16.9)</u>	<u>(9.50%)</u>	<u>(16.9)</u>	<u>(9.50%)</u>
Government normal cost	\$ 14.3	8.02%	\$ 13.5	7.57%
	<b>% of Total Payroll</b>	<b>% of Total Payroll</b>		
<b>Required Contribution per GCA §8137</b>				
Unfunded actuarial accrued liability cost	\$ 116.2	24.33%	\$ 105.5	23.75%
Government DB normal cost	14.3	3.00%	13.5	3.03%
Expected government DC contributions	<u>16.4*</u>	<u>3.43%</u>	<u>14.7*</u>	<u>3.31%</u>
Total DB and DC contribution	\$ 146.8	<b>30.76%</b>	\$ 133.6	<b>30.09%</b>
<b>Yield on Market Value of Assets</b>	(1.1%)		11.7%	

\* 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.

	9/30/2011	9/30/2010	9/30/2009	9/30/2008	9/30/2007
<b>Participant Counts</b>					
Active (DB)	3,361	3,594	3,732	3,952	4,061
Retired (DB)	7,117	7,082	7,112	7,085	7,037
Inactives (DB)	<u>5,833</u>	<u>6,466</u>	<u>6,525</u>	<u>6,634</u>	<u>6,738</u>
Total (DB)	16,311	17,142	17,369	17,671	17,836
Active (DC)	7,690	7,471	7,107	6,759	6,686
<b>Actual Payroll</b>					
DB payroll	\$179.0	\$175.8	\$182.0	\$186.0	\$180.8
DC payroll	<u>282.2</u>	<u>253.3</u>	<u>241.8</u>	<u>225.4</u>	<u>196.3</u>
Total payroll	\$461.2	\$429.0	\$423.8	\$411.4	\$377.0
<b>Financial Status</b>					
Accrued liability	\$2,906.9	\$2,790.5	\$2,738.8	\$2,718.7	\$2,682.1
Actuarial assets	<u>1,264.1</u>	<u>1,245.9</u>	<u>1,294.6</u>	<u>1,211.0</u>	<u>1,448.7</u>
UAAL	\$1,642.8	\$1,544.7	\$1,444.2	\$1,507.7	\$1,233.5
Security ratio	43.49%	44.65%	47.27%	44.54%	54.01%
<b>Contribution Rate</b>					
DB Normal Cost (as % of DB payroll)	8.02%	7.57%	7.50%	8.84%	7.86%
<b>% of Total Payroll</b>					
UAAL Rate	24.33%	23.75%	21.75%	22.69%	19.68%
DB Normal Cost	3.00%	3.03%	3.03%	3.73%	3.70%
DC Contribution	<u>3.43%</u>	<u>3.31%</u>	<u>3.28%</u>	<u>2.89%</u>	<u>2.64%</u>
Actuarial Rate *	30.76%	30.09%	28.06%	29.31%	26.02%
Budget Rate	**	28.30%	27.46%	26.04%	25.20%
Investment Yield (Market Value)	(1.1%)	11.7%	7.2%	(14.6%)	14.7%

\* "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 2012-13 has yet to be determined.



## SECTION I. VALUATION SUMMARY

## ACTUARIAL ASSUMPTIONS

The following are the major assumptions used in the actuarial valuation, which have been based upon the actuarial experience study for 2002-2007. 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, 2011, was 7.0%. 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 <sup>1</sup>	=	(c) Component Return
U.S. Equities (large cap)	30.00%		9.10%		2.73%
U.S. Equities (small cap)	10.00%		10.64%		1.06%
Non-U.S. Equities	14.25%		9.24%		1.32%
Non-U.S. Equities (emerging markets)	5.75%		11.60%		0.67%
U.S. Fixed Income (aggregate)	30.00%		5.00%		1.50%
Real Estate (REITs)	10.00%		8.90%		<u>0.89%</u>
Expected average return for one year					8.17%
Expected geometric mean (50 years)					7.37%
25 <sup>th</sup> to 75 <sup>th</sup> Percentile Return					6.10% - 8.62%

<sup>1</sup> Assumes annual inflation of 3.0%.

The current assumption of 7.0% is slightly less than the geometric average expected return over the next 50 years, and is well within the 25<sup>th</sup> to 75<sup>th</sup> 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, 2011, 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. This assumption is unchanged from the prior valuation.

**Salary Increases.** Salaries are 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. This assumption is unchanged from the prior valuation.

**Total Payroll Growth.** Total payroll for defined benefit and defined contribution members is assumed to increase 3.5% per year. This assumption is unchanged from the prior valuation.

**Retirement Age.** We have assumed 50% of employees will retire when first eligible for unreduced retirement. Thereafter, 20% of employees will retire at each year until age 70, at which time all remaining employees are assumed to retire. This assumption is unchanged from the prior valuation.

**SECTION I. VALUATION SUMMARY**

*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. This assumption is unchanged from the prior valuation.

Current terminated or inactive members with at least 5 years of service 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. Previously, all terminated and inactive members were assumed to elect to withdraw their contributions.

*Administrative Expenses.* Total administrative expenses are assumed to be \$6,638,000, which is the amount budgeted for the year ending September 30, 2012. Of this amount, \$5,226,000 is allocated to the defined benefit plan and \$1,412,000 to the defined contribution plan.

*Rates of Withdrawal and Disability.* The assumed rates of withdrawal and disability are shown in Appendix B. These assumptions are unchanged from 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.

**ALTERNATIVE FUNDING STRATEGIES**

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 19.58 years as a level percentage of total payroll (including both defined benefit and defined contribution members).

Any change in contribution requirements requires legislative action. One alternative strategy is to achieve a security ratio of less than 100% after a certain number of years. Another strategy recognizes the decreasing size of the active population covered by the defined benefit plan, and develops contribution requirements that decrease as a percentage of payroll.

Exhibits 19 and 20 project the employer and employee contributions, fund balance, actuarial accrued liability and security ratio forward 40 years under current funding requirements. Any study of alternative funding strategies should consider the effect on the projected fund balance and security ratio.

## 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 audited financial statements as of September 30, 2011, excluding certain receivables and liabilities whose payments are deducted from employer contributions to the Fund, along with the audited assets as of September 30, 2010.

	9/30/2011	9/30/2010
<b>Investments</b>		
Common stocks	\$ 688,984,305	\$ 684,028,213
Mutual funds	94,335,163	113,818,273
U.S. government securities	167,582,279	168,578,770
Corporate bonds and notes	195,167,909	192,887,162
Money market funds	<u>58,355,513</u>	<u>21,269,147</u>
Total investments	1,204,425,169	1,180,581,565
<b>Receivables</b>		
Employer contributions, net	12,153,131	10,353,465
Employer contributions, unfunded liability	8,861,049	2,855,202
Member contributions	4,226,049	4,576,642
Accrued investment income	5,228,841	4,461,187
Due from brokers for unsettled trades	2,679,861	74,234,246
Notes receivable for service credits	1,103,793	1,527,200
Notes receivable ERIP	3,561,549	4,761,094
Interest and penalties	2,622,664	1,097,393
Supplemental/insurance benefits advanced	3,511,711	3,511,711
Other receivables	826,088	725,099
Due from DC plan	<u>463,984</u>	<u>583,036</u>
Total receivables	45,238,720	108,686,275
Cash and cash equivalents	5,010,155	1,713,436
Property and equipment	<u>967,746</u>	<u>1,034,371</u>
Total assets	\$ 1,255,641,790	\$ 1,292,015,647
<b>Liabilities</b>		
Accounts payable and accrued expenses	\$ 1,713,718	\$ 1,575,250
Due to brokers for unsettled trades	<u>37,717,936</u>	<u>4,787,206</u>
Total liabilities	\$ 39,431,654	\$ 6,362,456
<b>Valuation Assets</b>	<u>\$ 1,216,210,136</u>	<u>\$ 1,285,653,191</u>
<b>Excluded Assets <sup>1</sup></b>		
Receivable – ERIP employer share	\$ 0	\$ 15,227
Supplemental/COLA benefits receivable	61,841,261	67,636,261
Deferred revenue for service credits	<u>(12,225,887)</u>	<u>(6,852,502)</u>
Total excluded assets	\$ 49,615,374	\$ 60,798,986

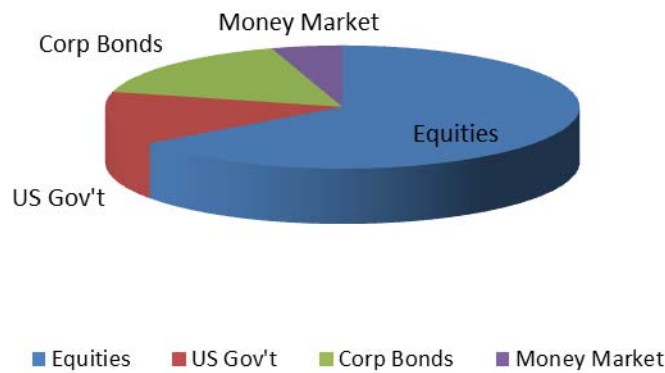
<sup>1</sup> Excluded because payments towards these receivables are deducted from employer contributions.

**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	
	9/30/2011	9/30/2010
Common stocks and mutual funds	65.0%	67.6%
U.S. government securities	13.9%	14.3%
Corporate bonds and notes	16.2%	16.3%
Money market funds	<u>4.9%</u>	<u>1.8%</u>
<b>Total</b>	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	
	9/30/2011	9/30/2010
<b>Beginning Balance</b>	\$ 1,285,653,191	\$ 1,201,474,642
<b>Contributions</b>		
Employer contributions	100,343,563	97,732,952
Member contributions	18,081,130	18,020,144
Recovery of bad debt	0	0
Decrease/(increase) in excluded assets	<u>11,183,612</u>	<u>3,499,012</u>
Total contributions	129,608,305	119,252,108
<b>Investment Income</b>		
Net appreciation in fair value	(46,794,683)	108,837,367
Interest	20,463,983	26,991,531
Dividends	16,780,298	12,761,512
Other investment income	916,871	780,665
Investment expenses	<u>(4,958,871)</u>	<u>(3,615,702)</u>
Total investment income	(13,592,402)	145,755,373
<b>Benefit Payments</b>		
Age and service annuities	149,023,692	146,781,373
Disability annuities	7,505,065	7,761,618
Survivor annuities	20,188,068	19,265,554
Refunds to separated employees	3,615,187	2,871,814
Interest on refunded contributions	1,968,048	1,362,795
Balances transferred to DC plan	<u>111,474</u>	<u>6,836</u>
Total benefit payments	182,411,534	178,049,990
<b>Administrative Expenses</b>	3,047,424	2,778,942
<b>Ending Balance</b>	\$ 1,216,210,136	\$ 1,285,653,191

## SECTION II. FUND ASSETS

## EXHIBIT 4. ACTUARIAL VALUE OF ASSETS

The actuarial value of assets as of September 30, 2011, 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.

	9/30/2011	9/30/2010
Valuation assets at market value	\$ 1,216,210,136	\$ 1,285,653,191
(Gains)/Losses excluded from actuarial value (see below)	47,869,779	(39,802,780)
Actuarial value of assets	\$ 1,264,079,915	\$ 1,245,850,411
Actuarial value as % of market value	103.9%	96.9%

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

Year	Expected Return <sup>1</sup>	Actual Return	Gain/(Loss)	Percent Excluded	Excluded From Market Value
2010/2011	\$ 87,565,216	\$ (13,592,402)	\$ (101,157,618)	66.67%	\$ (67,438,412)
2009/2010	87,049,474	145,755,373	58,705,899	33.33%	19,568,633
2008/2009	83,382,946	85,379,487	1,996,541	0.00%	0
Total					\$ (47,869,779)

<sup>1</sup> Expected return is based on the assumed investment return, which is 7.0%.

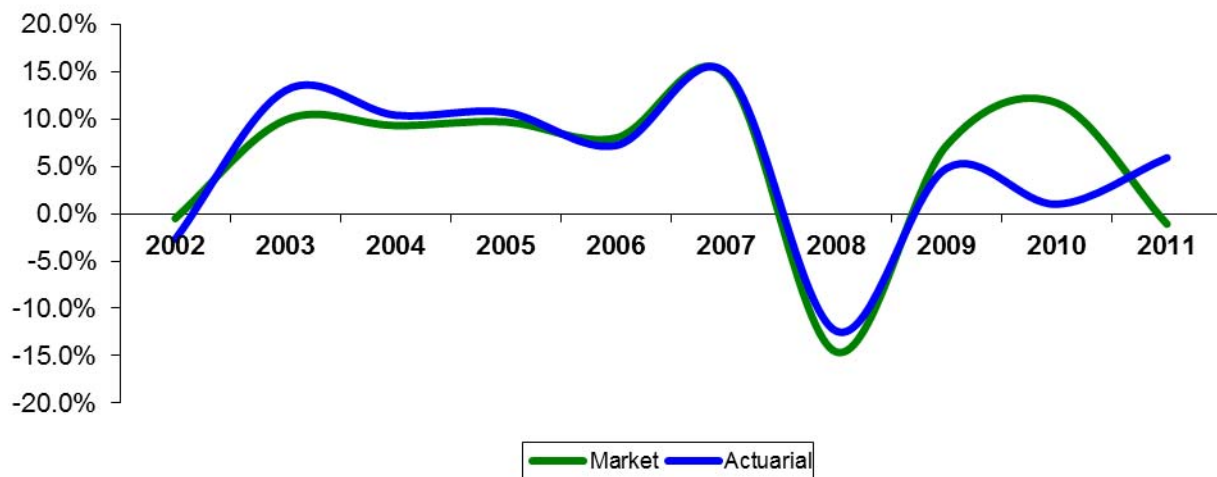
**SECTION II. FUND ASSETS**

**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
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	3.0%	2.4%
Average of last 10 years	5.1%	5.0%

\* 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)**

	9/30/2011	9/30/2010
<b>Reconciliation of Census</b>		
Members reported in raw data	9,206	10,076
Number excluded due to:		
Reported as inactive	4,286	4,775
Reported as terminated	244	256
Zero earnings	1,292	1,433
Refund of contributions	11	2
Duplicate retiree records	<u>12</u>	<u>16</u>
Total exclusions	5,845	6,482
Active employees in valuation	3,361	3,594
<b>Active Employees – Non-Uniformed</b>		
Number vested	2,961	3,181
Number not vested	<u>54</u>	<u>56</u>
Total	3,015	3,237
Average age	51.1	50.6
Average service	22.3	21.7
Average earnings	\$ 52,579	\$ 49,355
Average accumulated contributions	\$ 107,253	\$ 101,829
<b>Active Employees – Uniformed</b>		
Number vested	345	356
Number not vested	<u>1</u>	<u>1</u>
Total	346	357
Average age	47.5	46.7
Average service	23.4	22.6
Average earnings	\$ 74,981	\$ 67,484
Average accumulated contributions	\$ 149,190	\$ 136,931
<b>Active Employees – Total</b>		
Number vested	3,306	3,537
Number not vested	<u>55</u>	<u>57</u>
Total	3,361	3,594
Average age	50.8	50.2
Average service	22.4	21.8
Average earnings	\$ 54,885	\$ 51,156
Average accumulated contributions	\$ 111,570	\$ 105,316

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**SECTION III. MEMBERSHIP DATA**

**EXHIBIT 7. ACTIVE EMPLOYEES BY AGENCY**

	9/30/2011 (DC)	9/30/2011 (DB)	9/30/2010 (DC)	9/30/2010 (DB)
Agency For Human Resources Development	21	17	33	17
Bureau of Budget & Management Research	7	11	8	10
Bureau of Statistics and Plans	11	24	11	26
Chamorro Land Trust	10	3	0	4
Chief Medical Examiner	3	0	2	1
Customs & Quarantine	97	44	97	46
Dept of Administration	93	60	89	58
Dept of Agriculture	40	35	43	35
Dept of Chamorro Affairs	7	6	8	5
Dept of Corrections	157	62	159	64
Dept of Education	2,719	1,084	2,555	1,178
Dept of Labor	33	15	28	16
Dept of Land Management	19	25	26	27
Dept of Law	113	41	109	40
Dept of Mental Health & Substance Abuse	116	39	119	38
Dept of Military Affairs	31	10	32	10
Dept of Parks and Recreation	33	28	38	32
Dept of Public Health & Social Services	276	134	261	145
Dept of Public Works	202	160	209	180
Dept of Revenue and Taxation	107	64	93	68
Dept of Youth Affairs	54	30	53	29
DISID	19	11	17	15
Government of Guam Retirement Fund	25	15	27	15
Governor's Office	88	8	89	12
Guam Airport Authority	135	80	126	85
Guam CAHA	3	2	3	2
Guam Community College	196	78	175	84
Guam Economic Development Agency	21	7	20	6
Guam Energy Office	8	4	12	3
Guam Environmental Protection Agency	38	12	37	13
Guam Fire Dept	137	150	140	156
Guam Housing & Urban Renewal Agency	70	26	71	31
Guam Housing Corporation	20	6	17	6
Guam Legislature	51	11	53	14
Guam Memorial Hospital Authority	790	206	784	223
Guam Police Dept	237	126	249	123
Guam Power Authority	340	192	321	202
Guam Public Library	21	6	22	7
Guam Visitors Bureau	22	7	21	7
Guam Waterworks Authority	214	84	207	95
Judiciary Of Guam	256	111	240	112
KGTF	2	8	3	7
Lt. Governor's Office	15	0	19	3
Mayor's Council	172	16	212	20
Port Authority Of Guam	256	104	230	109
Public Auditors	15	1	15	1
Public Defender	36	21	28	21
University Of Guam	354	177	360	193
TOTAL	7,690	3,361	7,471	3,594

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## SECTION III. MEMBERSHIP DATA

## EXHIBIT 8. RETIRED EMPLOYEES (DB)

	9/30/2011	9/30/2010
<b>Service Retirees</b>		
Count	4,948	4,936
Average age	67.2	66.6
Average benefit	\$30,296	\$29,698
<b>Disabled Retirees</b>		
Count	355	377
Average age	64.9	64.6
Average benefit	\$20,565	\$20,254
<b>Survivors</b>		
Count	1,551	1,503
Average age	70.0	69.6
Average benefit	\$14,918	\$12,634
<b>Child Pensioners</b>		
Count	263	266
Average age	15.1	15.1
Average benefit	\$2,880	\$2,160
<b>Total Retirees and Survivors</b>		
Count	7,117	7,082
Average age*	67.7	67.2
Average benefit*	\$26,312	\$25,413

\* Excludes child pensioners.

**SECTION III. MEMBERSHIP DATA**

**EXHIBIT 9. TERMINATED AND INACTIVE MEMBERS (DB)**

	9/30/2011	9/30/2010
<b>Reported as Inactive</b>		
Count	4,286	4,775
Accumulated contributions	\$ 1,387,911	\$ 1,561,831
<b>Reported as Terminated</b>		
Count	244	256
Accumulated contributions	\$ 598,228	\$ 1,146,892
<b>Zero Earnings</b>		
Count	1,292	1,433
Accumulated contributions	\$ 10,252,268	\$ 11,921,501
<b>Refund of Contributions</b>		
Count	11	2
Accumulated contributions	\$ 41,731	\$ 573
<b>Total Terminateds and Inactives</b>		
Count	5,833	6,466
Accumulated contributions	\$ 12,280,138	\$ 14,630,797
<hr/>		
<b>Assumed to Withdraw Contributions</b>		
Count	5,673	6,466
Accumulated contributions	\$ 3,470,128	\$ 14,630,797
<b>Not Assumed to Withdraw Contributions</b>		
Count	160	0
Average age	51.1	n/a
Average benefit	12,562	n/a
Accumulated contributions	\$ 8,810,010	\$ n/a

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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
<b>9/30/2010</b>	3,594	4,775	256	1,433	2	4,936	1,503	377	266	17,142
<b>Additions from:</b>										
Actives		0	0	16	10	134	0	5	0	165
Inactives	3		0	16	0	0	0	0	0	19
Terminations	3	0		3	0	0	0	0	0	6
Zero earnings	25	0	0		0	5	0	0	0	30
Refunds	0	0	0	1		0	0	0	0	1
Retiree	0	0	0	0	0		0	0	0	0
Survivor	0	0	0	0	0	0		0	1	1
Disability	0	0	0	0	0	0	0		0	0
Child	0	0	0	0	0	0	0	0		0
Other adds <sup>1</sup>	3	2	0	3	1	14	106	0	37	166
Subtotal	34	2	0	39	11	153	106	5	38	388
<b>Subtractions due to:</b>										
Actives		-3	-3	-25	0	0	0	0	0	-31
Inactives	0		0	0	0	0	0	0	0	0
Terminations	0	0		0	0	0	0	0	0	0
Zero earnings	-16	-16	-3		-1	0	0	0	0	-36
Refunds	-10	0	0	0		0	0	0	0	-10
Retiree	-134	0	0	-5	0		0	0	0	-139
Survivor	0	0	0	0	0	0		0	0	0
Disability	-5	0	0	0	0	0	0		0	-5
Child	0	0	0	0	0	0	-1	0		-1
Other drops <sup>2</sup>	-102	-472	-6	-150	-1	-141	-57	-27	-41	-997
Subtotal	-267	-491	-12	-180	-2	-141	-58	-27	-41	-1,219
<b>9/30/2011</b>	3,361	4,286	244	1,292	11	4,948	1,551	355	263	16,311

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.).

## 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.

	9/30/2011	9/30/2010
<b>Present Value of Benefits</b>		
Active employees –		
Retirement	\$ 1,076,294,645	\$ 1,036,432,455
Disability	60,880,382	60,357,548
Death	24,483,280	19,677,851
Withdrawal	<u>52,445,579</u>	<u>51,788,277</u>
Total active PVB	1,214,103,886	1,168,256,131
Retirees and Survivors		
Retirees	1,565,367,073	1,531,602,169
Disabled retirees	69,845,526	72,110,685
Survivors	<u>223,222,156</u>	<u>188,839,011</u>
Total retirees and survivors	1,858,434,755	1,792,551,865
Terminated and inactive members		
Assumed to retire	12,243,321	0
Assumed to elect return of contributions	<u>3,470,128</u>	<u>14,630,797</u>
Total terminated and inactive members	15,713,449	14,630,797
Total PVB	\$ 3,088,252,090	\$ 2,975,438,793
<b>Present Value of Future Normal Cost</b>		
Active employees –		
Retirement	\$ 131,346,807	\$ 134,824,029
Disability	19,796,837	20,482,490
Death	7,151,836	6,423,998
Withdrawal	<u>23,057,983</u>	<u>23,175,823</u>
Total active PVFNC	\$ 181,353,463	\$ 184,906,340
<b>Actuarial Accrued Liability</b>		
Active members	\$ 1,032,750,423	\$ 983,349,791
Retirees and survivors	1,858,434,755	1,792,551,865
Terminations and inactives	<u>15,713,449</u>	<u>14,630,797</u>
Total accrued liability	\$ 2,906,898,627	\$ 2,790,532,453

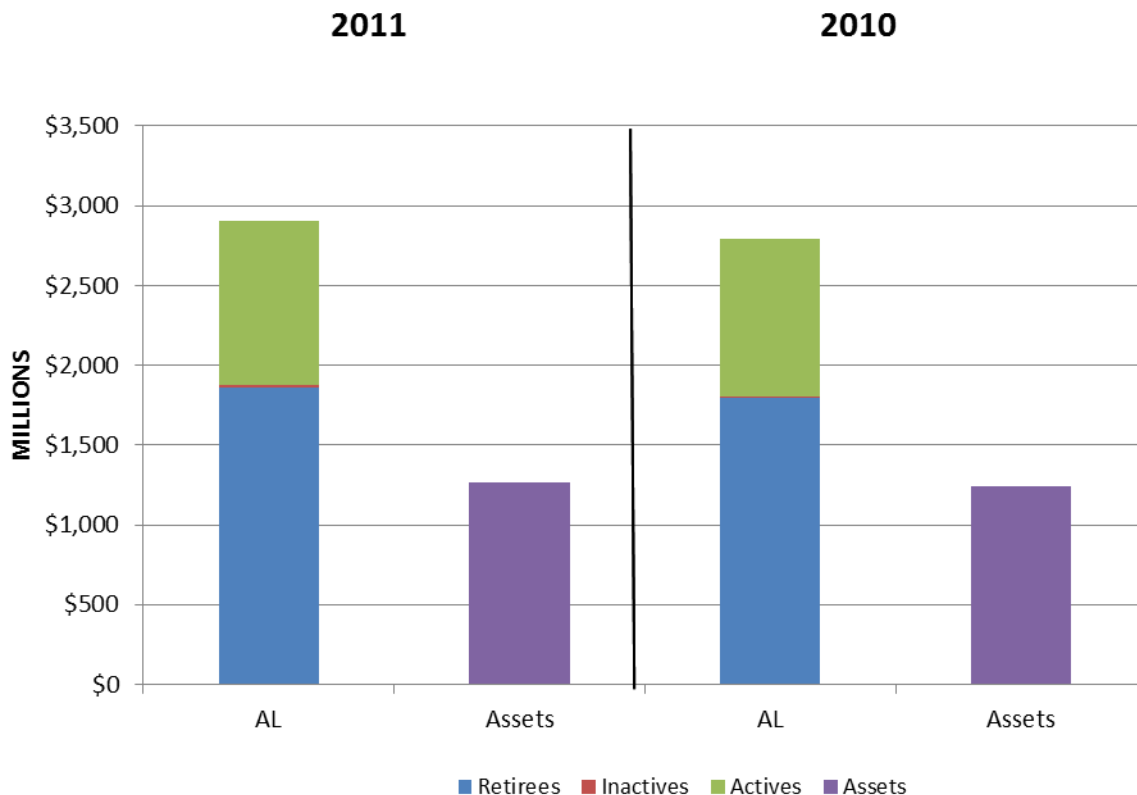
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**SECTION IV. VALUATION EXHIBITS**

**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.

	9/30/2011	9/30/2010
<b>Actuarial Accrued Liability</b>		
Active members	\$ 1,032,750,423	\$ 983,349,791
Retirees and survivors	1,858,434,755	1,792,551,865
Terminations and inactives	<u>15,713,449</u>	<u>14,630,797</u>
Total accrued liability	\$ 2,906,898,627	\$ 2,790,532,453
<b>Actuarial Value of Assets</b>	1,264,079,915	1,245,850,411
<b>Unfunded Actuarial Accrued Liability</b>	\$ 1,642,818,712	\$ 1,544,682,042
<b>Security Ratio = (Assets/AAL)</b>	43.49%	44.65%



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## SECTION IV. VALUATION EXHIBITS

## EXHIBIT 13. CALCULATION OF ACTUARIAL GAIN/LOSS

	9/30/2011	9/30/2010
<b>Unfunded Actuarial Accrued Liability, beginning of year</b>	\$ 1,544,682,042	\$ 1,444,161,034
<b>Additions:</b>		
Normal cost	13,010,113	12,833,196
Interest to end of year	<u>109,038,451</u>	<u>101,989,596</u>
Total additions	122,048,564	114,822,792
<b>Deductions:</b>		
Employer contributions for year	111,527,175	101,231,964
Interest on contributions	<u>3,837,432</u>	<u>3,483,194</u>
Total deductions	115,364,607	104,715,158
<b>Other Changes:</b>		
Plan amendments	64,246,714	0
Changes in assumptions and methods	<u>3,433,311</u>	<u>0</u>
Net other changes	67,680,025	0
<b>Expected UAAL, end of year</b>	\$ 1,619,046,024	\$ 1,454,268,668
<b>Actual UAAL, end of year</b>	<u>1,642,818,712</u>	<u>1,544,682,042</u>
<b>Actuarial Gain/(Loss)</b>	\$ (23,772,688)	\$ (90,413,374)
<b>Components of Actuarial Gain/(Loss):</b>		
Investment gain/(loss) on actuarial value of assets	\$ (13,804,617)	\$ (76,213,624)
Other changes	<u>(9,968,071)</u>	<u>(14,199,750)</u>
Total actuarial gain/(loss)	\$ (23,772,688)	\$ (90,413,374)

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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.

	9/30/2011		9/30/2010	
<b>Expected defined benefit payroll for next fiscal year</b>	\$ 178,357,732		\$ 177,846,327	
		<b>% of DB Payroll</b>		<b>% of DB Payroll</b>
<b>Normal cost <sup>1</sup></b>				
Retirement	\$ 18,944,769	10.62%	\$ 18,901,279	10.63%
Disability	2,834,870	1.59%	2,855,161	1.61%
Withdrawal	3,213,004	1.80%	3,073,408	1.73%
Death	<u>1,034,821</u>	<u>0.58%</u>	<u>907,319</u>	<u>0.51%</u>
Total active normal cost	\$ 26,027,464	14.59%	\$ 25,737,167	14.47%
<b>Assumed DB administrative expenses</b>	<u>5,226,000</u>	<u>2.93%</u>	<u>4,616,000</u>	<u>2.60%</u>
<b>Total normal cost and expenses</b>	\$ 31,253,464	17.52%	\$ 30,353,167	17.07%
<b>Expected member contributions</b>	<u>(16,943,985)</u>	<u>(9.50%)</u>	<u>(16,895,401)</u>	<u>(9.50%)</u>
<b>Government portion of normal cost</b>	\$ 14,309,479	8.02%	\$ 13,457,766	7.57%

<sup>1</sup> 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, 2011, there are 19.58 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 3.5% per year.

	9/30/2011	9/30/2010
Total payroll (DB and DC) for fiscal year following	\$ 477,353,332	\$ 444,060,635
Unfunded actuarial accrued liability	1,642,818,712	1,544,682,042
Remaining funding period	19.58 years	20.58 years
Annual amortization	116,150,783	105,453,928
As % of total payroll (DB and DC)	24.33%	23.75%

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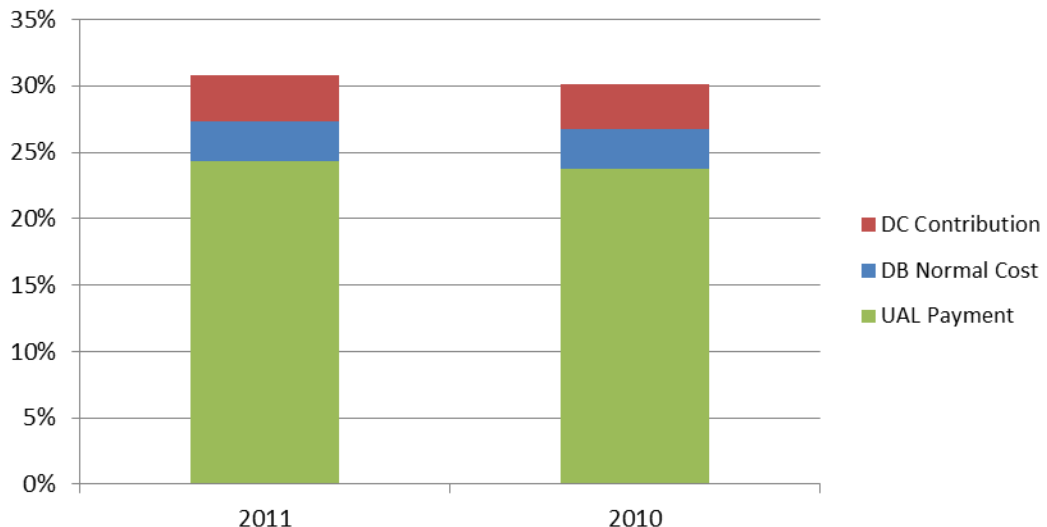
**SECTION IV. VALUATION EXHIBITS**

**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.

	9/30/2011	9/30/2010
Expected payroll for next fiscal year		
Defined benefit (DB)	\$ 178,357,732	\$ 177,846,327
Defined contribution (DC)	<u>298,995,600</u>	<u>266,214,308</u>
Total payroll (DB and DC)	\$ 477,353,332	\$ 444,060,635
Government normal cost excluding expenses (DB)	14,309,479	13,457,766
As % of DB payroll	8.02%	7.57%
As % of total payroll (DB and DC)	3.00%	3.03%
Amortization of UAAL (DB)	116,150,783	105,453,928
As % of total payroll (DB and DC)	24.33%	23.75%
Government DC contributions	16,361,780	14,689,715
As % of DC payroll	5.47%	5.52%
As % of total payroll (DB and DC)	3.43%	3.31%
Total DB and DC contributions	\$ 146,822,042	\$ 133,601,409
% of total payroll (DB and DC)	30.76%	30.09%

**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%

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## SECTION IV. VALUATION EXHIBITS

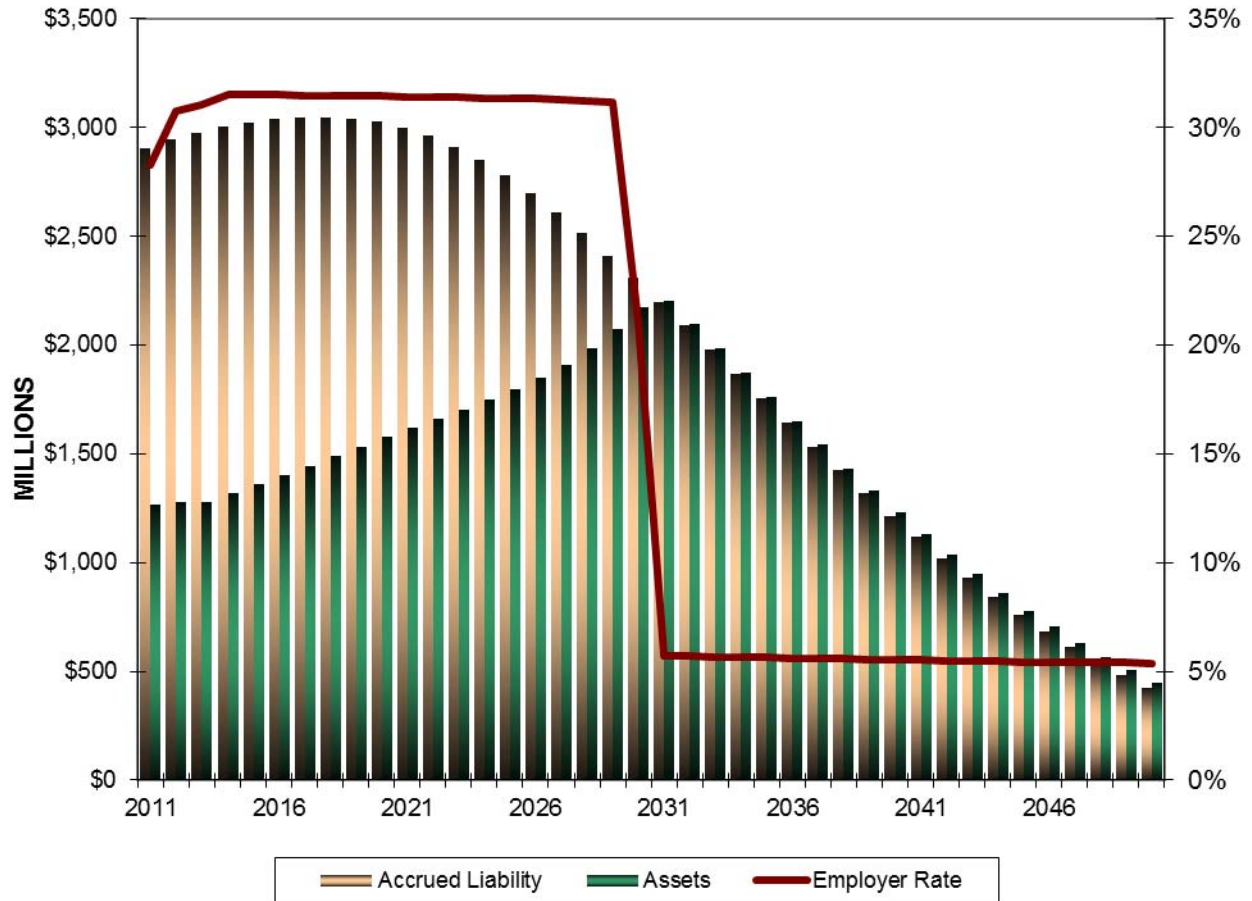
## EXHIBIT 18. GASB NO. 25 SCHEDULE OF EMPLOYER CONTRIBUTIONS

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%

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)

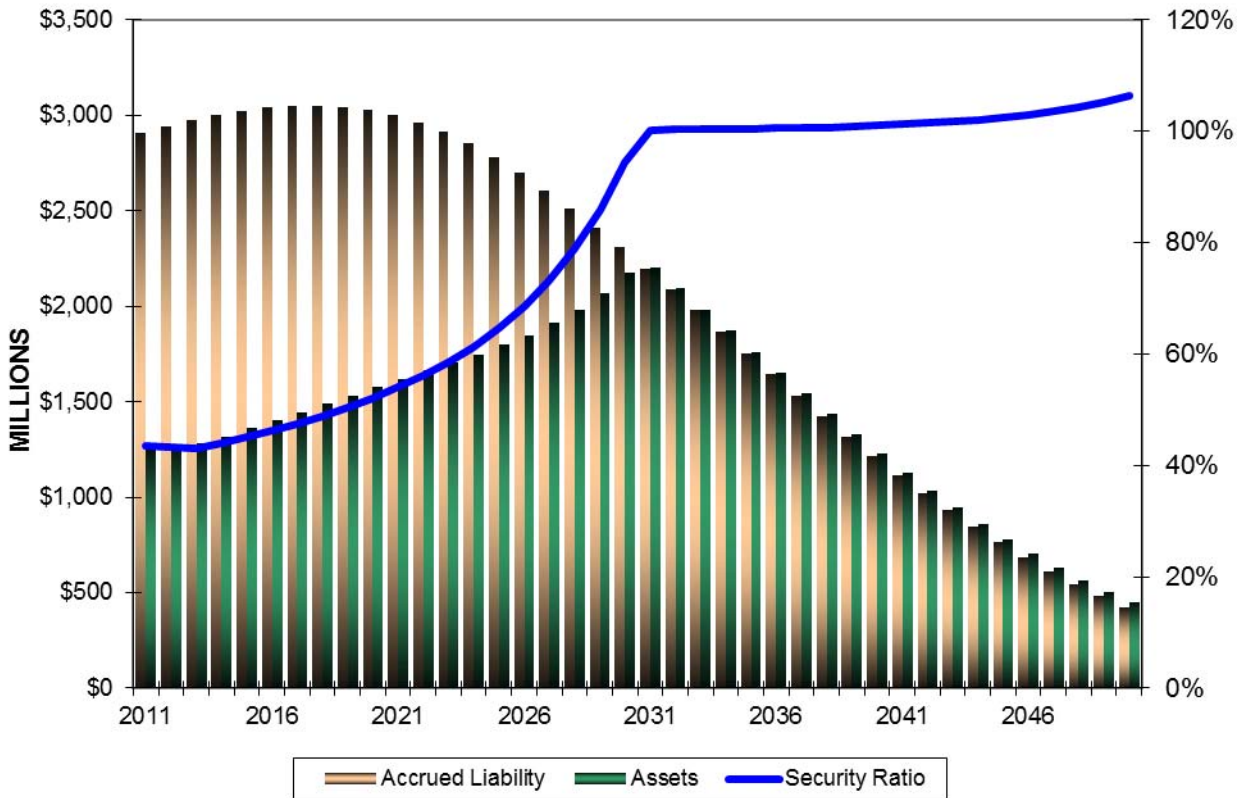
Year Ending	PAYROLL <sup>1</sup>		CONTRIB RATE		CONTRIBUTIONS			Invest Gain <sup>2</sup>	Benefits/ Expenses	DB Fund Actuarial
	DB	DC	DB	DC	DB	DC	EE			
2011										\$1,264.08
2012	\$178.36	\$ 299.00	28.30%	22.83%	\$50.48	\$ 68.25	\$16.98	\$ 82.27	\$(192.33)	1,275.57
2013	172.26	321.80	30.76%	25.32%	52.98	81.48	16.40	84.37	(197.77)	1,279.31
2014	165.37	345.99	31.02%	25.61%	51.29	88.61	15.75	86.93	(203.46)	1,318.43
2015	157.58	371.67	31.53%	26.15%	49.68	97.18	15.00	89.65	(209.51)	1,360.44
2016	148.84	398.93	31.54%	26.19%	46.95	104.47	14.18	92.47	(215.84)	1,402.66
2017	139.98	426.97	31.51%	26.18%	44.11	111.78	13.34	95.31	(221.79)	1,445.41
2018	131.03	455.76	31.47%	26.16%	41.23	119.22	12.48	98.20	(227.63)	1,488.92
2019	120.88	486.44	31.44%	26.15%	38.01	127.22	11.52	101.13	(234.00)	1,532.81
2020	109.28	519.30	31.44%	26.17%	34.36	135.89	10.43	104.06	(241.12)	1,576.42
2021	96.85	553.73	31.43%	26.18%	30.44	144.94	9.25	106.95	(248.58)	1,619.42
2022	84.13	589.22	31.42%	26.18%	26.43	154.26	8.03	109.81	(255.97)	1,661.99
2023	71.34	625.59	31.41%	26.18%	22.40	163.78	6.83	112.67	(262.99)	1,704.68
2024	59.15	662.17	31.39%	26.18%	18.57	173.36	5.66	115.57	(269.14)	1,748.69
2025	48.03	698.53	31.37%	26.17%	15.07	182.78	4.60	118.64	(273.77)	1,796.01
2026	38.25	734.44	31.34%	26.15%	11.99	192.08	3.67	122.01	(276.89)	1,848.87
2027	30.47	769.26	31.31%	26.13%	9.54	200.98	2.93	125.86	(277.90)	1,910.29
2028	24.47	803.26	31.27%	26.09%	7.65	209.60	2.36	130.42	(276.87)	1,983.44
2029	19.67	837.03	31.23%	26.06%	6.14	218.13	1.90	135.86	(274.50)	2,070.97
2030	15.68	871.00	31.19%	26.03%	4.89	226.69	1.52	142.36	(270.86)	2,175.57
2031	12.36	905.35	21.05%	15.90%	2.60	143.92	1.20	146.93	(266.31)	2,203.91
2032	9.71	940.12	5.73%	0.58%	0.56	5.41	0.94	144.29	(260.73)	2,094.37
2033	7.63	975.44	5.70%	0.56%	0.44	5.42	0.74	136.86	(254.24)	1,983.59
2034	5.87	1,011.62	5.68%	0.54%	0.33	5.43	0.58	129.38	(247.02)	1,872.30
2035	4.36	1,048.73	5.65%	0.52%	0.25	5.45	0.43	121.89	(239.22)	1,761.10
2036	3.21	1,086.74	5.63%	0.50%	0.18	5.45	0.32	114.43	(230.97)	1,650.51
2037	2.37	1,125.73	5.61%	0.48%	0.13	5.46	0.24	107.03	(221.97)	1,541.40
2038	1.72	1,165.86	5.59%	0.47%	0.10	5.46	0.17	99.76	(212.62)	1,434.26
2039	1.23	1,207.23	5.57%	0.45%	0.07	5.46	0.12	92.64	(202.80)	1,329.77
2040	0.84	1,249.91	5.55%	0.44%	0.05	5.46	0.09	85.72	(192.74)	1,228.34
2041	0.53	1,293.99	5.53%	0.42%	0.03	5.46	0.06	79.02	(182.50)	1,130.41
2042	0.32	1,339.52	5.51%	0.41%	0.02	5.46	0.04	72.57	(172.16)	1,036.34
2043	0.17	1,386.56	5.50%	0.39%	0.01	5.46	0.02	66.40	(161.79)	946.43
2044	0.09	1,435.18	5.48%	0.38%	-	5.46	0.01	60.51	(151.44)	860.96
2045	0.04	1,485.45	5.46%	0.37%	-	5.46	0.00	54.93	(141.21)	780.15
2046	0.02	1,537.47	5.45%	0.36%	-	5.46	0.00	49.67	(131.14)	704.14
2047	0.01	1,591.29	5.43%	0.34%	-	5.46	0.00	44.73	(121.29)	633.04
2048	0.00	1,646.99	5.42%	0.33%	-	5.46	0.00	40.13	(111.72)	566.91
2049	0.00	1,704.64	5.40%	0.32%	-	5.46	0.00	35.87	(102.45)	505.79
2050	0.00	1,764.30	5.39%	0.31%	-	5.46	0.00	31.94	(93.54)	449.65

<sup>1</sup> Payroll is assumed to increase 3.5% per year.

<sup>2</sup> 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



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 IV. VALUATION EXHIBITS

EXHIBIT 20. PROJECTION OF SECURITY RATIO (values)

Year Ending	Payroll <sup>1</sup>	EMPLOYER CONTRIBUTIONS			Accrued Liability	Security Ratio
		DB Rate	Contribs DB Plan	DB Fund Actuarial <sup>2</sup>		
2011				\$ 1,264.08	\$ 2,906.90	43.49%
2012	\$ 477.35	28.30%	\$118.73	1,275.57	2,942.87	43.34%
2013	494.06	30.76%	134.46	1,279.31	2,974.71	43.01%
2014	511.35	31.02%	139.90	1,318.43	3,001.73	43.92%
2015	529.25	31.53%	146.86	1,360.44	3,023.17	45.00%
2016	547.77	31.54%	151.41	1,402.66	3,038.20	46.17%
2017	566.95	31.51%	155.88	1,445.41	3,046.69	47.44%
2018	586.79	31.47%	160.45	1,488.92	3,048.37	48.84%
2019	607.33	31.44%	165.23	1,532.81	3,042.15	50.39%
2020	628.58	31.44%	170.24	1,576.42	3,026.45	52.09%
2021	650.58	31.43%	175.38	1,619.42	3,000.11	53.98%
2022	673.35	31.42%	180.69	1,661.99	2,962.41	56.10%
2023	696.92	31.41%	186.19	1,704.68	2,912.94	58.52%
2024	721.31	31.39%	191.93	1,748.69	2,851.76	61.32%
2025	746.56	31.37%	197.85	1,796.01	2,779.84	64.61%
2026	772.69	31.34%	204.06	1,848.87	2,698.11	68.52%
2027	799.73	31.31%	210.52	1,910.29	2,608.37	73.24%
2028	827.72	31.27%	217.25	1,983.44	2,512.45	78.94%
2029	856.69	31.23%	224.27	2,070.97	2,411.54	85.88%
2030	886.68	31.19%	231.58	2,175.57	2,306.73	94.31%
2031	917.71	21.05%	146.52	2,203.91	2,198.79	100.23%
2032	949.83	5.73%	5.96	2,094.37	2,088.68	100.27%
2033	983.08	5.70%	5.86	1,983.59	1,977.29	100.32%
2034	1,017.48	5.68%	5.76	1,872.30	1,865.34	100.37%
2035	1,053.10	5.65%	5.70	1,761.10	1,753.43	100.44%
2036	1,089.95	5.63%	5.63	1,650.51	1,642.07	100.51%
2037	1,128.10	5.61%	5.59	1,541.40	1,532.13	100.60%
2038	1,167.59	5.59%	5.55	1,434.26	1,424.12	100.71%
2039	1,208.45	5.57%	5.53	1,329.77	1,318.67	100.84%
2040	1,250.75	5.55%	5.50	1,228.34	1,216.23	101.00%
2041	1,294.52	5.53%	5.49	1,130.41	1,117.21	101.18%
2042	1,339.83	5.51%	5.48	1,036.34	1,021.97	101.41%
2043	1,386.73	5.50%	5.47	946.43	930.81	101.68%
2044	1,435.26	5.48%	5.46	860.96	844.02	102.01%
2045	1,485.50	5.46%	5.46	780.15	761.78	102.41%
2046	1,537.49	5.45%	5.46	704.14	684.24	102.91%
2047	1,591.30	5.43%	5.46	633.04	611.51	103.52%
2048	1,647.00	5.42%	5.46	566.91	543.63	104.28%
2049	1,704.64	5.40%	5.46	505.79	480.64	105.23%
2050	1,764.30	5.39%	5.46	449.65	422.49	106.43%

<sup>1</sup> Payroll is assumed to increase 3.5% per year.

<sup>2</sup> 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.

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

**SECTION V. APPENDICES**

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 66-2/3% of the employee’s salary in effect on the date of disability. Subsequent employees will have an annuity amount based on 66-2/3% 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.

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

**SECTION V. APPENDICES**

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 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.

**SECTION V. APPENDICES**

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**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.

## SECTION V. APPENDICES

## APPENDIX B. ACTUARIAL COST METHOD AND ASSUMPTIONS

	September 30, 2010		September 30, 2009	
<b>Actuarial Cost Method</b>	Entry Age Normal		Entry Age Normal	
<b>Interest Rate</b>	7.00%		7.00%	
<b>Salary Increases</b>	<u>Service</u>	<u>% Increase</u>	<u>Service</u>	<u>% Increase</u>
	0 – 5	8.5%	0 – 5	8.5%
	6 – 10	7.0%	6 – 10	7.0%
	11 – 15	6.0%	11 – 15	6.0%
	16 – 20	5.0%	16 – 20	5.0%
	Over 20	4.0%	Over 20	4.0%
<b>Total Payroll Growth (DB and DC)</b>	3.50%		3.50%	
<b>Cost of Living Adjustment</b>	Specified in Plan		Specified in Plan	
<b>Mortality</b>	RP-2000 Combined Healthy table +3 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.	
<b>Disability</b>				
Incidence	1974-78 SOA LTD Non-Jumbo		1974-78 SOA LTD Non-Jumbo	
Post-disability mortality	RP 2000 Disability male/female tables		RP 2000 Disability male/female tables	
<b>Withdrawal Rates</b>	Service-based rates (see attached)		Service-based rates (see attached)	
<b>Retirement Age</b>	50% assumed to retire at earliest eligibility for unreduced benefits.		50% assumed to retire at earliest eligibility for unreduced benefits.	
	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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**SECTION V. APPENDICES**

	September 30, 2010	September 30, 2009
<b>Return of Contributions</b>	<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>All employees who have previously withdrawn are assumed to elect a return of contributions.</p> <p>Contributions earn 4.5% interest</p>
<b>Marital Status</b>	<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>
<b>Sick Leave Adjustments</b>	<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>
<b>Administrative Expenses</b>	<p>\$5,995,000 per year (equal to budgeted expense for year ending 9/30/11), allocated 77% to DB and 23% to DC</p>	<p>\$5,729,000 per year (equal to budgeted expense for year ending 9/30/10), allocated 77% to DB and 23% to DC</p>
<b>Survivor Benefit – Minor Children</b>	<p>Assumed to increase value of retirement benefits by 0.5% and survivor benefits by 15% for active members</p>	<p>Assumed to increase value of retirement benefits by 0.5% and survivor benefits by 15% for active members</p>
<b>Asset Valuation Method</b>	<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>
<b>Data Inconsistencies</b>	<p>None</p>	<p>None</p>

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**SECTION V. APPENDICES**

**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	0.10	0	15.0	20	0.02	0.10	0	15.0
21	0.04	0.10	1	14.0	21	0.02	0.10	1	14.0
22	0.04	0.10	2	13.0	22	0.02	0.10	2	13.0
23	0.04	0.10	3	12.0	23	0.02	0.10	3	12.0
24	0.04	0.10	4	11.0	24	0.02	0.10	4	11.0
25	0.04	0.10	5	10.0	25	0.02	0.10	5	10.0
26	0.04	0.10	6	9.0	26	0.02	0.10	6	9.0
27	0.04	0.10	7	8.0	27	0.02	0.10	7	8.0
28	0.05	0.10	8	7.0	28	0.02	0.10	8	7.0
29	0.06	0.10	9	6.0	29	0.03	0.10	9	6.0
30	0.06	0.10	10	5.0	30	0.03	0.10	10	5.0
31	0.07	0.10	11	4.5	31	0.04	0.10	11	4.5
32	0.08	0.10	12	4.0	32	0.04	0.10	12	4.0
33	0.08	0.10	13	3.5	33	0.04	0.10	13	3.5
34	0.09	0.10	14	3.0	34	0.05	0.10	14	3.0
35	0.10	0.10	15	2.5	35	0.05	0.10	15	2.5
36	0.10	0.10	16	2.0	36	0.06	0.10	16	2.0
37	0.11	0.10	17	2.0	37	0.06	0.10	17	2.0
38	0.11	0.10	18	2.0	38	0.06	0.10	18	2.0
39	0.12	0.10	19	2.0	39	0.07	0.10	19	2.0
40	0.13	0.20	20 & over	2.0	40	0.08	0.20	20 & over	2.0
41	0.14	0.20			41	0.09	0.20		
42	0.15	0.20			42	0.09	0.20		
43	0.16	0.20			43	0.10	0.20		
44	0.17	0.20			44	0.11	0.20		
45	0.19	0.36			45	0.12	0.36		
46	0.20	0.36			46	0.13	0.36		
47	0.21	0.36			47	0.14	0.36		
48	0.24	0.36			48	0.16	0.36		
49	0.27	0.36			49	0.17	0.36		
50	0.29	0.63			50	0.19	0.63		
51	0.32	0.63			51	0.20	0.63		
52	0.36	0.63			52	0.22	0.63		
53	0.42	0.63			53	0.24	0.63		
54	0.47	0.63			54	0.27	0.63		
55	0.53	1.06			55	0.31	1.06		
56	0.59	1.06			56	0.35	1.06		
57	0.67	1.06			57	0.39	1.06		
58	0.77	1.06			58	0.44	1.06		
59	0.88	1.06			59	0.51	1.06		
60	1.00	1.51			60	0.58	1.51		
61	1.13	1.51			61	0.67	1.51		
62	1.27	1.51			62	0.76	1.51		
63	1.44	1.51			63	0.86	1.51		
64	1.61	1.51			64	0.97	1.51		

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**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	-	1	1	-	*	*
30 – 34	2	3	5	*	*	*
35 – 39	80	70	150	\$ 3,338,711	\$ 3,201,378	\$ 6,540,089
40 – 44	227	253	480	10,332,393	12,288,772	22,621,165
45 – 49	346	390	736	17,284,475	19,995,117	37,279,592
50 – 54	327	366	693	16,684,347	19,755,091	36,439,438
55 – 59	198	296	494	11,186,195	15,803,637	26,989,832
60 – 64	106	185	291	5,959,907	9,773,188	15,733,095
65 – 69	41	66	107	2,732,137	3,248,326	5,980,463
70 & Over	<u>27</u>	<u>31</u>	<u>58</u>	<u>1,618,431</u>	<u>1,643,253</u>	<u>3,261,684</u>
Total	1,354	1,661	3,015	\$69,136,596	\$85,708,762	\$154,845,358

\* 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	-	-	1	-	-	-	-	-	-	1
30 – 34	2	-	-	3	-	-	-	-	-	5
35 – 39	6	12	10	107	15	-	-	-	-	150
40 – 44	10	14	19	202	219	16	-	-	-	480
45 – 49	15	11	18	156	325	198	13	-	-	736
50 – 54	18	9	19	143	230	186	83	5	-	693
55 – 59	6	3	11	84	176	107	75	29	3	494
60 – 64	3	2	8	59	109	59	37	5	9	291
65 – 69	1	2	1	20	38	26	11	6	2	107
70 & Over	<u>1</u>	<u>-</u>	<u>-</u>	<u>10</u>	<u>23</u>	<u>14</u>	<u>6</u>	<u>1</u>	<u>3</u>	<u>58</u>
Total	62	53	87	784	1,135	606	225	46	17	3,015

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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	24	1	25	\$ 1,499,746	*	\$ 1,499,746
40 – 44	78	3	81	5,557,090	*	5,557,090
45 – 49	119	6	125	8,973,563	*	8,973,563
50 – 54	79	3	82	6,224,689	*	6,224,689
55 – 59	22	-	22	1,548,125	-	1,548,125
60 – 64	8	-	8	*	-	*
65 – 69	3	-	3	*	-	*
70 & Over	-	-	-	-	-	-
Total	333	13	346	\$23,803,213	*	\$23,803,213

\* 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	-	-	4	18	3	-	-	-	-	25
40 – 44	1	1	2	28	45	4	-	-	-	81
45 – 49	-	-	1	17	52	51	4	-	-	125
50 – 54	-	-	-	6	24	36	16	-	-	82
55 – 59	-	-	1	3	5	6	6	1	-	22
60 – 64	-	-	-	1	5	1	1	-	-	8
65 – 69	-	-	-	-	-	2	1	-	-	3
70 & Over	-	-	-	-	-	-	-	-	-	-
Total	1	1	8	73	134	100	28	1	-	346

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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	-	1	1	-	*	*
30 – 34	2	3	5	*	*	*
35 – 39	104	71	175	\$ 4,838,457	\$ 3,201,378	\$ 8,039,835
40 – 44	305	256	561	15,889,483	12,288,772	28,178,255
45 – 49	465	396	861	26,258,038	19,995,117	46,253,155
50 – 54	406	369	775	22,909,036	19,755,091	42,664,127
55 – 59	220	296	516	12,734,320	15,803,637	28,537,957
60 – 64	114	185	299	5,959,907	9,773,188	15,733,095
65 – 69	44	66	110	2,732,137	3,248,326	5,980,463
70 & Over	<u>27</u>	<u>31</u>	<u>58</u>	<u>1,618,431</u>	<u>1,643,253</u>	<u>3,261,684</u>
Total	1,687	1,674	3,361	\$92,939,809	\$85,708,762	\$178,648,571

\* 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	-	-	1	-	-	-	-	-	-	1
30 – 34	2	-	-	3	-	-	-	-	-	5
35 – 39	6	12	14	125	18	-	-	-	-	175
40 – 44	11	15	21	230	264	20	-	-	-	561
45 – 49	15	11	19	173	377	249	17	-	-	861
50 – 54	18	9	19	149	254	222	99	5	-	775
55 – 59	6	3	12	87	181	113	81	30	3	516
60 – 64	3	2	8	60	114	60	38	5	9	299
65 – 69	1	2	1	20	38	28	12	6	2	110
70 & Over	<u>1</u>	<u>-</u>	<u>-</u>	<u>10</u>	<u>23</u>	<u>14</u>	<u>6</u>	<u>1</u>	<u>3</u>	<u>58</u>
Total	63	54	95	857	1,269	706	253	47	17	3,361

*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	1	-	1	*	-	*
45 – 49	20	11	31	\$ 546,083	*	\$ 546,083
50 – 54	159	113	272	5,767,135	\$ 3,399,056	9,166,191
55 – 59	406	365	771	15,395,742	11,455,906	26,851,648
60 – 64	574	521	1,095	20,374,888	15,660,566	36,035,454
65 – 69	437	486	923	15,170,744	14,092,678	29,263,422
70 – 74	362	384	746	11,570,984	9,611,025	21,182,009
75 – 79	268	289	557	7,432,782	6,742,257	14,175,039
80 – 84	164	189	353	4,150,447	4,300,202	8,450,649
85 – 89	79	76	155	1,615,755	1,462,759	3,078,514
90 & Over	<u>11</u>	<u>32</u>	<u>43</u>	<u>*</u>	<u>554,228</u>	<u>554,228</u>
Total	2,481	2,467	4,948	\$82,024,560	\$67,278,677	\$149,303,237

\* 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	-	-	-	-	-	1	-	-	-	1
45 – 49	-	2	1	6	5	6	6	4	1	31
50 – 54	-	6	14	19	41	42	75	43	32	272
55 – 59	2	4	32	51	104	124	222	131	101	771
60 – 64	2	14	73	91	153	178	314	158	112	1,095
65 – 69	2	20	62	101	136	169	220	124	89	923
70 – 74	2	32	96	119	107	115	152	59	64	746
75 – 79	-	33	101	105	92	73	89	33	31	557
80 – 84	-	11	79	95	46	42	42	13	25	353
85 – 89	-	3	58	46	15	16	10	3	4	155
90 & Over	<u>-</u>	<u>1</u>	<u>18</u>	<u>13</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>43</u>
Total	8	126	534	646	705	768	1,131	570	460	4,948

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	2	1	3	*	*	*
40 – 44	2	2	4	*	*	*
45 – 49	12	5	17	*	*	*
50 – 54	13	15	28	*	*	*
55 – 59	31	25	56	\$ 707,451	\$ 499,467	\$1,206,918
60 – 64	34	42	76	822,538	856,618	1,679,156
65 – 69	27	25	52	657,912	539,773	1,197,685
70 – 74	28	24	52	545,083	467,897	1,012,980
75 – 79	16	17	33	*	*	*
80 – 84	9	14	23	*	*	*
85 – 89	3	6	9	*	*	*
90 & Over	<u>1</u>	<u>1</u>	<u>2</u>	<u>*</u>	<u>*</u>	<u>*</u>
Total	178	177	355	\$2,732,984	\$2,363,755	\$5,096,739

\* 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	-	-	-	3	-	-	-	-	-	3
40 – 44	-	-	-	3	-	-	1	-	-	4
45 – 49	-	-	1	5	3	4	4	-	-	17
50 – 54	-	-	2	15	6	4	-	1	-	28
55 – 59	-	-	6	22	13	7	6	2	-	56
60 – 64	-	-	8	31	16	12	6	2	1	76
65 – 69	-	-	6	14	14	10	7	1	-	52
70 – 74	-	-	10	19	16	4	3	-	-	52
75 – 79	-	-	12	10	5	4	2	-	-	33
80 – 84	-	-	15	5	2	1	-	-	-	23
85 – 89	-	-	6	3	-	-	-	-	-	9
90 & Over	<u>-</u>	<u>-</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2</u>
Total	-	-	68	130	75	46	29	6	1	355

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## SECTION V. APPENDICES

## Surviving Spouses and Child Pensioners

Age	COUNT			ANNUAL BENEFITS		
	Males	Females	Total	Males	Females	Total
Under 25	114	116	230	\$ 328,320	\$ 334,080	\$ 662,400
25 – 29	2	1	3	*	*	*
30 – 34	3	5	8	*	*	*
35 – 39	3	10	13	*	*	*
40 – 44	3	28	31	*	434,860	434,860
45 – 49	8	42	50	*	562,898	562,898
50 – 54	10	69	79	*	1,174,579	1,174,579
55 – 59	14	132	146	*	2,234,733	2,234,733
60 – 64	33	176	209	423,640	2,774,093	3,197,733
65 – 69	33	181	214	478,494	2,913,895	3,392,389
70 – 74	50	181	231	747,730	2,782,602	3,530,332
75 – 79	43	192	235	615,492	2,582,177	3,197,669
80 – 84	44	147	191	685,983	1,986,155	2,672,138
85 – 89	33	94	127	448,532	1,202,925	1,651,457
90 & Over	4	43	47	*	533,245	533,245
Total	397	1,417	1,814	\$3,728,191	\$19,516,242	\$23,244,433

\* 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	2	2	-	-	-	-	1	11
40 – 44	-	7	10	8	1	1	-	-	1	28
45 – 49	-	13	17	9	3	1	1	-	-	44
50 – 54	-	10	28	16	14	4	1	-	2	75
55 – 59	-	21	55	26	19	11	9	2	-	143
60 – 64	-	30	91	44	24	7	9	1	-	206
65 – 69	-	25	97	47	21	15	8	-	-	213
70 – 74	-	45	107	40	17	10	7	4	1	231
75 – 79	-	52	128	29	13	7	5	1	-	235
80 – 84	-	32	120	20	11	4	2	1	1	191
85 – 89	-	20	88	10	6	1	2	-	-	127
90 & Over	-	10	32	4	-	-	1	-	-	47
Total	-	271	775	255	129	61	45	9	6	1,551

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	6	3	9	*	*	*
40 – 44	16	12	28	*	*	*
45 – 49	20	19	39	\$297,630	*	\$297,630
50 – 54	16	13	29	*	*	*
55 – 59	20	13	33	301,166	*	301,166
60 – 64	9	7	16	*	*	*
65 – 69	1	2	3	*	*	*
70 – 74	1	-	1	*	-	*
75 – 79	1	-	1	*	-	*
80 – 84	-	1	1	*	*	*
85 – 89	-	-	-	-	-	-
90 & Over	-	-	-	-	-	-
Total	90	70	160	\$598,796	*	\$598,796

\* 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	4	3	1	1	-	-	-	-	-	9
40 – 44	4	9	6	9	-	-	-	-	-	28
45 – 49	3	13	5	10	4	3	1	-	-	39
50 – 54	2	12	4	4	3	3	-	-	1	29
55 – 59	2	9	11	5	2	1	3	-	-	33
60 – 64	3	9	3	-	-	1	-	-	-	16
65 – 69	1	1	-	-	1	-	-	-	-	3
70 – 74	-	1	-	-	-	-	-	-	-	1
75 – 79	-	1	-	-	-	-	-	-	-	1
80 – 84	-	-	1	-	-	-	-	-	-	1
85 – 89	-	-	-	-	-	-	-	-	-	-
90 & Over	-	-	-	-	-	-	-	-	-	-
Total	19	58	31	29	10	8	4	-	1	160

*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.