

**REPUBLIC OF THE MARSHALL ISLANDS
SOCIAL SECURITY SYSTEM**

**ACTUARIAL VALUATION
AS OF OCTOBER 1, 2011**

**PREPARED BY:
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MARCH 2012

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SECTION I

FOREWORD

This report contains the results of the seventh actuarial valuation, the second performed by Pacific Actuarial Services of the Republic of the Marshall Islands Social Security System. The valuation was conducted as of October 1, 2011 and the results contained herein report costs applicable to the plan and fiscal years ending September 30, 2012.

Section 126 of Title 49 stipulates that the Administration may engage an actuary to examine and advise the Administration. It requires the actuary to perform an actuarial valuation of the Administration no less frequently than every three years.

The purpose of the annual valuation is to:

- Compare the accrued liabilities of the system to system assets in order to determine the current funded status of the system.
- Provide a basis for determining the effect of any future proposed changes to the system.

SECTION II

ACTUARIAL VALUATION RESULTS

A. Introduction

This section contains the detailed results of the actuarial valuation. These results are classified in subsections B through E as noted below:

- B. Actuarial Certification
- C. Summary of Valuation Results
- D. Unfunded Accrued Liability and Funded Percent
- F. Discussion of Unfunded Actuarial Accrued Liability
- F. Comments and Suggestions to Control and Reduce the Unfunded Accrued Liability

B. Actuarial Certification

This report presents the abbreviated results of the actuarial valuation as of October 1, 2011, of the Republic of the Marshall Islands Social Security System. The valuation was performed using participant data and asset information that was supplied by The Republic of the Marshall Islands Social Security Administration. These were not audited, but were checked for reasonableness and consistency with the prior valuation's data. The valuation results presented are dependent on the accuracy of the participant and asset information.

The principal result includes the calculation of the system's actuarially determined accrued liabilities and determination of the system's funded ratio (the ratio of plan assets to accrued liabilities). Actuarially determined accrued liabilities represent the accumulated current value of benefits already earned, or accrued, as of any point in time. The comparison of current plan assets to accrued liabilities gives an indication of how well funded the system is at any point in time. A funded ratio of 100% would indicate that the system's current liability for benefits already earned was fully funded by current assets. A funded ratio of 25% indicates that current plan assets are only great enough to fund 25% of the benefits already earned. The greater the funded ratio, the better funded the system is with respect to benefits already earned.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. The employee data was provided by MISSA and the Plan asset data was obtained from the Deloitte plan audit. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. Employee data is snapshot data as of the valuation date.

The valuation was based on the provisions of the Plan as amended through the beginning of the Plan Year. Each actuarial assumption used in this valuation is reasonably related to the past experience of the Plan and represents reasonable expectations of future experience under the Plan. The Plan trustees with advice and approval of the actuary set the assumptions and methods for the valuation.

Neither the signing actuary nor the firm of Pacific Actuarial Services has a conflict of interest that would impair the objectivity of our work. This report is intended for use by the Plan trustees and the Social Security Retirement Commission and should not be used for any purpose other than as stated herein.

Certified by:



Joseph A. Nichols, A.S.A.

Pacific Actuarial Services
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C. Summary of Valuation Results

The principal results of this valuation are the calculation of the accrued liability, the funded ratio, and the deficiency.

The accrued liability represents the current value of benefits already earned, as of the valuation date including benefits currently in pay status.

The funded ratio is an indication of how well-funded the Administration is at any point in time with respect to benefits already earned. A funded ratio of 100% would indicate that the Administration's liability for benefits already earned was fully funded by current Trust assets. A funded ratio of 25% would indicate that current Trust assets were only great enough to cover 25% of the benefits already earned. The greater the funded ratio, the better funded the Administration is with respect to benefits already earned.

The deficiency is calculated as the accrued liability less the market value of Trust assets and further reduced by the estimated value of future employee contributions in excess of that needed to fund future benefits and system expenses.

This is the third actuarial valuation performed by Pacific Actuarial Services. An important part of the valuation process is reviewing the assumptions made regarding, among other things, future life expectancy of current and disabled workers, retirees and beneficiaries, investment return, and cost of living adjustments as they apply to the system.

Actuarial assumptions are used to build a mathematical model of the system. Because the system is intended to continue well into the future and indeed past the lifetime of the current workers, these assumptions must be chosen with the very long-term in mind. This is why the assumption regarding the return on system assets does not change with every valuation to reflect the current interest and investment environment. Choosing realistic, long-term assumptions smoothes out the otherwise inherent fluctuations in measurement of system liabilities that would result if assumptions were changed, with every valuation, and allows a level playing field for making comparisons of the system's liabilities from one valuation to the next.

All actuarial assumptions and methods are the same as those utilized in the prior valuation.

As of October 1, 2011, the total accrued liability stood at \$287,327,000, and the market value of Trust assets was \$64,986,000, resulting in an unfunded accrued liability of \$222,341,000.

When discussing the funded status of a retirement system, a common benchmark is the funded ratio of the system which, as mentioned above, is calculated as the market value of Trust assets divided by accrued liability. The funded ratio as of October 1, 2011, is 23%. This is a decrease from the funded status in past years. In addition, there are warning signs showing future stresses to the System. Due to market decreases in 2008 and 2011, the funded status of the system has hit a critical juncture. Adding to the stress on the System is the fact that the number of workers and taxable earnings continues to decrease.

D. Unfunded Accrued Liability, Funded Ratio, and Deficiency

The accrued liability represents the value of benefits already earned and which are in pay status as well as benefits earned as of the valuation date by those who are still working and are expected to earn future benefits. One can think of this as the amount needed today to pay for all benefits earned as of today that are either already being paid or will be paid in the future.

This determination of the accrued liability does not include former workers who are no longer making contributions, are not fully insured, and therefore are not entitled to a future benefit. Should these workers re-enter the workforce in the future, their benefits will then be included in the category of workers currently earning benefits.

| | Accrued Liability and Market Value of Assets as of October 1 | |
|--|--|----------------|
| | 2011 | 2008 |
| Active Workers Earning Benefits | \$ 120,384,000 | \$ 106,952,000 |
| Retirees, Spouses, Children, and Disabled Workers Receiving Benefits | 145,551,000 | 100,505,000 |
| Fully or Service Insured Inactive Workers Entitled to a Future Benefit | 21,392,000 | 18,349,000 |
| Total Accrued Actuarial Liability | \$ 287,327,000 | \$ 225,806,000 |
| Market Value of Assets | \$ 64,986,000 | \$ 63,200,000 |
| Unfunded Actuarial Accrued Liability | \$ 222,341,000 | \$ 162,606,000 |
| Funded Percent | 23% | 28% |

The unfunded accrued liability can also be further reduced by considering the current value of future employee and employer contributions that are in excess of future benefits earned and future expenses.

Currently we estimate that a combined employee and employer contribution rate of approximately 12.5% would pay for future benefits earned by new workers who would enter the Administration in the future and would cover future expenses. Since the current combined tax rate is 14% of covered earnings, this excess can be used to reduce the unfunded accrued liability as shown below. It is important to note that because the current contribution rate is sufficient to cover future benefits, that the unfunded accrued liability and total deficiency shown below do not exist because of current system provisions, but rather are the result of prior benefits already earned.

| | Determination of the Total Deficiency as of January 1 | |
|---|--|----------------|
| | 2011 | 2008 |
| Total Accrued Liability | \$ 287,327,000 | \$ 225,806,000 |
| Market Value of Assets | (64,986,000) | (63,209,000) |
| Current Value of Excess Employee Contributions from Active Workers | (14,884,000) | (13,008,000) |
| Total Deficiency* | \$ 207,457,000 | \$149,598,000 |

*The current value of excess employee contributions from active workers includes an allowance for future system expenses.

E. Discussion of Unfunded Actuarial Accrued Liability

The unfunded accrued liability is the excess of the accrued liability over the market value of assets. The funded ratio indicates what percentage of the accrued liability is covered by the market value of assets. The accrued liability is expected to increase from year to year as workers earn additional benefits and get closer to retirement age and in fact the accrued liability shown in this valuation is greater than that in the prior valuation.

When the market value of assets equals or exceeds the accrued liability, there is no unfunded accrued liability and the retirement system is said to be fully funded. Although it is not critical that the Administration be fully funded, it is important that there is a positive trend in increasing the funded ratio from year-to-year. It is important to note that the funded ratio can decrease due to poor performance by the Trust assets and also due to increasing benefits payable to both current and future beneficiaries.

Past valuations have gone into great detail describing the danger of an ever increasing unfunded accrued liability and this report agrees that this is a continuing and serious issue. If the Administration were to cease operations with an unfunded accrued liability, there would not be enough money in the Trust at that time to fully provide benefits already in pay status or promised in the future. Therefore it is important that benefits are not increased until a long-term trend of increasing the funded ratio and decreasing the unfunded accrued liability has been realized.

F. Comments and Suggestions to Manage the Unfunded Accrued Liability

Benefit payments and administrative expenses exceeded the amount of contributions collected during each fiscal year from 2008 to 2011, and will continue to do so for fiscal year 2012. Since a larger portion of the contributions are for past due collections, the difference between the current year collections and disbursement are even greater. The trend of deficits shows no end. This puts the Administration in the position of having to dip into the Trust in order to meet its financial commitments. As the amount of benefit payments grows in the future, without further changes, it is certain that the Trust will run out of money. In fact, based on current provisions and worker demographics, the Trust will be diminished by 2022. This projection is based on no growth in the active workforce. The deficit will come even sooner should the workforce continue to decrease.

The accrued liability is expected to increase from year to year and in fact the accrued liability has increased since the prior valuation. Because the unfunded accrued liability is simply the difference between the accrued liability and Trust assets, the size of the unfunded accrued liability can be limited in three ways: increase the return on invested assets, increase revenue through additional funding, and limit the growth of future benefit payments. We will only deal with the last two of these issues here because the topic of investment return is much better addressed with the Administration's investment advisors. We will first discuss ways that the Administration may increase revenue through additional funding and will then address ways to limit future benefit growth.

Plan Design Study

The RMI set up a Social Security Retirement Committee to study alternative designs for MISSA. A report was issued from Pacific Actuarial Services at the same time as this valuation. Please refer to that report for plan design information.

SECTION III

A. Statement of Net Assets

| <u>Market Value of Assets</u> | <u>9/30/2011</u> | <u>9/30/2010</u> |
|-------------------------------|------------------|------------------|
| Invested Assets: | | |
| Cash and Equivalents | \$ 1,265,266 | \$ 763,320 |
| Certificates of Deposit | 2,300,000 | 4,065,200 |
| Investments | 60,190,165 | 61,777,377 |
| Receivables | 2,861,559 | 3,774,942 |
| Prepaid Items | 0 | 0 |
| Total Assets | \$ 66,616,990 | \$ 70,380,839 |
| Total Liabilities | (1,631,460) | (1,836,851) |
| Net Assets | \$ 64,985,530 | \$ 68,543,988 |

B. Statement of Changes in Net Assets

| | <u>9/30/2011</u> | <u>9/30/2010</u> |
|-------------------------------|------------------|------------------|
| Beginning of Year Net Assets | | |
| | \$ 68,543,988 | \$ 64,882,760 |
| Income: | | |
| Contributions | 12,521,129 | 13,111,836 |
| Net Investment Gain or (Loss) | (98,508) | 5,490,636 |
| Other Income | 339,090 | 488,192 |
| Total Income: | \$ 12,761,711 | \$19,097,664 |
| Expense: | | |
| Benefit and Refund Payments | \$ 15,482,884 | \$ 14,551,142 |
| Administrative Expenses | 837,285 | 885,294 |
| Total Expense: | 16,320,169 | 15,436,436 |
| End of Year Net Assets | \$ 64,985,530 | \$ 68,543,988 |
| | | |
| | | |
| | | |

C. Trust Asset History

| Plan Year End | Beginning of Year Market Value of Assets | Prior Year Adjustment | Contributions | Trust Gain or (Loss) | Benefit Payments | Administrative Expenses | Transfer Out |
|---------------|--|-----------------------|---------------|----------------------|------------------|-------------------------|--------------|
| 9/30/1992 | \$ 11,411,827 | | 5,203,926 | 919,006 | 3,045,791 | 370,141 | |
| 9/30/1993 | \$ 14,118,827 | | 5,551,741 | 1,585,653 | 3,650,861 | 576,256 | |
| 9/30/1994 | \$ 17,027,104 | N/A | N/A | N/A | N/A | N/A | N/A |
| 9/30/1995 | \$ 18,621,286 | | 6,552,290 | 1,212,257 | 4,498,091 | 686,210 | |
| 9/30/1996 | \$ 21,201,802 | N/A | N/A | N/A | N/A | N/A | N/A |
| 9/30/1997 | \$ 24,018,126 | | 7,250,596 | 6,932,697 | 6,232,641 | 776,334 | 550,597 |
| 9/30/1998 | \$ 30,624,147 | 192,504 | 5,941,895 | (372,743) | 6,864,677 | 957,129 | |
| 9/30/1999 | \$ 28,581,697 | | 6,152,415 | 7,703,934 | 7,385,202 | 970,091 | |
| 9/30/2000 | \$ 34,083,023 | | 6,857,536 | 7,065,277 | 7,657,881 | 742,942 | |
| 9/30/2001 | \$39,605,013 | | 9,756,368 | (5,296,995) | 8,229,021 | 802,040 | |
| 9/30/2002 | \$35,033,325 | | 9,907,862 | (1,428,655) | 8,564,016 | 685,476 | |
| 9/30/2003 | \$34,263,040 | 277,812 | 13,035,585 | 4,032,258 | 9,276,506 | 783,436 | |
| 9/30/2004 | \$41,548,753 | | 10,627,661 | 6,011,501 | 9,747,850 | 859,676 | |
| 9/30/2005 | \$47,580,389 | | 11,921,222 | 7,869,333 | 10,673,660 | 826,840 | |
| 9/30/2006 | \$55,870,444 | | 11,443,526 | 5,780,773 | 11,018,951 | 896,473 | |
| 9/30/2007 | \$61,179,319 | | 12,508,494 | 7,976,646 | 11,653,271 | 982,986 | |
| 9/30/2008 | \$69,028,202 | | 13,471,032 | (5,747,499) | 12,548,715 | 1,016,370 | |
| 9/30/2009 | \$63,186,661 | | 12,604,191 | 3,710,036 | 13,645,174 | 972,854 | |
| 9/30/2010 | \$64,882,760 | | 13,118,836 | 5,978,828 | 14,551,142 | 885,294 | |
| 9/30/2011 | \$68,543,988 | | 12,521,129 | 240,582 | 15,482,884 | 837,285 | |
| 9/30/2012 | \$64,985,530 | | | | | | |

D. Trust Investment Experience History

| Plan Year End | Return | | Plan Year End | Return | |
|---------------|--------|-------------|---------------|--------|--|
| 9/30/1992 | 7.47% | | 9/30/2002 | 4.04% | |
| 9/30/1993 | 10.73 | | 9/30/2003 | 11.24 | |
| 9/30/1994 | -0.93 | - Estimated | 9/30/2004 | 14.47 | |
| 9/30/1995 | 6.28 | | 9/30/2005 | 16.47 | |
| 9/30/1996 | 8.09 | - Estimated | 9/30/2006 | 10.39 | |
| 9/30/1997 | 29.05 | | 9/30/2007 | 13.05 | |
| 9/30/1998 | -1.25 | | 9/30/2008 | -8.33 | |
| 9/30/1999 | 28.03 | | 9/30/2009 | 5.79 | |
| 9/30/2000 | 21.21 | | 9/30/2010 | 8.96 | |
| 9/30/2001 | -13.25 | | 9/30/2011 | 0.36 | |
| 9/30/2002 | -4.04 | | | | |

Historical trust investment experience information up to and including the plan year that ended 9/30/2002 is taken from the prior actuarial valuation prepared by the prior actuary.

| Most Recent Average Annual Return | |
|-----------------------------------|-------|
| Five-Year Average | 3.69% |
| Ten-Year Average | 7.40% |
| Twenty-Year Average | 7.49% |

SECTION IV

ACTUARIAL ASSUMPTIONS, AND SUMMARY OF KEY SYSTEM FEATURES

A. Actuarial Assumptions

Actuarial Cost

Method: Individual Entry Age Method

Investment Income: 7.5% per year

Expenses: 0.75% of Covered Wages

Salary Increase: 4.5% per year

Cost-of-living

Adjustments: None.

Mortality: 1984 Unisex Pension Mortality Table set forward 4 years for males and one year for females

Disabled

Mortality: The PBGC Mortality Table for Disabled Persons receiving Social Security

Retirement Age: According to the probabilities in the table if eligible, with a maximum age of 70. Active workers who are older than 62 are assumed to retire at the end of the next fiscal year if they earned 4 quarters of coverage during the fiscal year that just ended.

| Age | Probability that the worker will Retire |
|-------------|---|
| 55 | 2.5% |
| 56 | 5.0 |
| 57 | 7.0 |
| 58 | 10.0 |
| 59 | 20.0 |
| 60 | 50.0 |
| 61 | 20.0 |
| 62 or older | 100.0 |

| | |
|--|---|
| Pre-retirement Spouse Benefit: | 80% of the workers are assumed to be married and males are assumed to be 3 years older than their spouses. |
| Pre-retirement Children's Benefit: | Married workers are assumed to have 3 children and each child is assumed to be age 13 at the time of death of the worker. |
| Post Retirement Survivor's Benefit: | 80% of active workers are assumed to be married when they retire. Males are assumed to be 3 years older than their spouses. It is assumed that 10% of male spouses and 60% of female spouses have Old Age Benefits smaller than the survivor's benefit, which is assumed to be twice the amount of the spouse's own benefit. |
| Disability: | Rates are from the 2003 US Social Security Trustees Report Intermediate Assumptions. |
| Turnover: | None for citizens of the Marshall Islands. 5% of citizens of countries other than the Marshall Islands are assumed to leave each year, except for that 80% are assumed to leave in their third year of employment. It is also assumed that 80% of workers who are not citizens of the Marshall Islands leave when they retire. |
| Workers included In the Valuation: | Workers who have covered quarters in at least one of the last three years and who are age 21 or older are assumed to continue working and earn quarters of coverage equal to the average number earned during the previous three years until they become disabled, die, or retire, whichever comes first. Workers who have not earned any quarters of coverage during the last three years are assumed to stay out of the work force. Salary used as a basis to project future salaries is the greater of the salary earned during the last three years. If this salary is based on less than four quarters of coverage, it is converted to an annual salary. |
| Data used in the Valuation: | This valuation was completed during a benefit design study. The original valuation was as of October 1, 2010. However, the liabilities were rolled forward to October 1, 2011 and compared with the September 30, 2011 asset amounts. |

B. Summary of Key System Features

Applicable Laws

The Social Security Act of 1990, as amended by Public Laws 1994-104, 1996-27, and 1996-29.

Workers and Employer's Contributions

Workers, self-employed workers and employers each pay 7% of earnings up to a maximum of \$5,000 of earnings per quarter.

Coverage

All employees who are citizens or nationals of the Republic of the Marshall Islands and all other employees working in the Republic are covered. U.S. citizens who are exempt from taxation in the Marshall Islands are exempted from coverage.

Eligibility for and Computation of Benefits is based on the following definitions:

Quarters of Coverage: A calendar quarter in which contributions were made for at least \$250 of earnings. Prior to October 1, 1990, a Quarter of Coverage was earned for a calendar year in which contributions were made for at least \$50 of earnings.

Currently Insured: Credited with at least 6 quarters of coverage during the previous 40 calendar quarters.

Fully Insured: Credited with at least one quarter of coverage for each year since the later of attainment of age 21 or June 30, 1968. A worker who attains retirement age, or becomes disabled after September 30, 1983 must have a minimum of 12 quarters of coverage. Workers who attained retirement age or became disabled prior to October 1, 1983 needed a minimum of 8 quarters of coverage. However, no more than 38 quarters of coverage are required to be Fully Insured.

Service Insured: Credited with at least 80 quarters of coverage.

Maximum Covered Earnings: Earnings up to a maximum of \$5,000 each quarter.

Minimum Benefit: \$128 per month as of October 1, 1994.

Cost of Living Adjustments

A cost of living adjustment, not to exceed the consumer price index, may be adopted every two years. This adjustment applies to the amount of the Minimum Benefit and is used to calculate Indexed Covered Earnings. Two adjustments have been implemented prior to this valuation.

| | |
|-----------------|-------|
| October 1, 1992 | 16.1% |
| October 1, 1994 | 11.1% |

Wage Index Adjustment

A Wage Index Adjustment may be adopted periodically but may not exceed the government index. The Wage Index Adjustment is used to increase the Basic Benefit bendpoints and/or the Maximum Covered Earnings. So far, no wage index adjustments have ever been implemented.

Basic Benefit

A worker's Basic Benefit is calculated as 1/12 of:

1. 2% of Indexed Covered Earnings, plus
2. 14.5% of the first \$11,000 of total Maximum Covered Earnings for which contributions have been made, plus
3. 0.7% of the next \$33,000 of total Maximum Covered Earnings for which contributions have been made.

Early Retirement Old Age Insurance Benefit

Eligibility: Age 55 and Service Insured

Amount: Greater of the Basic Benefit reduced $\frac{1}{2}$ % for each month prior to age 60 that benefits commence, and the Minimum Benefit. Benefits paid before attainment of age 62 are reduced by \$1 for every \$3 of earnings in excess of \$1,500 received each quarter.

Normal Retirement Old Age Insurance Benefit

Eligibility: Age 60 and Fully Insured

Amount: Greater of the Basic Benefit and the Minimum Benefit

Deferred Old Age Retirement Benefit

Eligibility: Older than age 60 and fully insured

Amount: Greater of the Basic Benefit increased $\frac{1}{2}$ % for each month past age 60 that benefits commence, and the Minimum Benefit.

Disability Benefit

Eligibility: Disabled and both Fully and Currently Insured at time of disability

Amount: Unreduced Basic Benefit earned at time of disability. Sum of disability benefit and workers compensation benefit may not exceed 80% of the highest covered compensation earned in the year of disability and the prior five years. The benefit ceases should the worker recover from the disability.

Survivor Benefits

Eligibility: Worker must have been Fully or Currently Insured at time of death.

Amount:

Spouse: 100% of the Basic Benefit earned at the time of death. Paid until the earlier of the date the spouse remarries, returns to work, or dies. This benefit is reduced by any Old Age Benefit that the spouse may be entitled to base on his or her own earnings history.

Children: 25% of the Basic Benefit for each dependent child under the age of 18 or 22 if a student. The benefit ceases if the child marries or is adopted by a close relative.

Parents: 15% of the Basic Benefit earned at the time of death.

The Minimum total Survivor benefit is \$128 per month.

The sum of all survivors' benefits cannot exceed 100% of the Basic Benefit earned at the time of death.

Benefits Paid to Employed Retirees

If a person who is receiving an old age insurance benefit accepts covered employment, the benefit shall be recomputed at the end of the calendar year and the recomputed benefit shall be paid beginning with the first month of the subsequent calendar year.

Earnings Test

Benefits paid before attainment of age 62 are reduced by \$1 for every \$3 of earnings in excess of \$1,500 received each quarter.

Payment to Non-Citizens Overseas

No more than six months of benefit payments shall be made to any beneficiary who is not a citizen or national of Republic of the Marshall Islands while the beneficiary is outside the Republic of the Marshall Islands. However, benefit payments will be made to citizens and nationals of the Federated States of Micronesia, the Republic of Palau and the United States as if they were citizens or nationals of the Republic of the Marshall Islands if such countries extend the same reciprocal benefits to citizens of the Marshall Island.

Lump Sum Death Benefit

Eligibility: After the death of any covered worker and rights to all survivors benefits have ceased.

Amount: Four percent of total Maximum Covered Earnings for which contributions have been paid, less the value of any benefits already paid.

Lump Sum Benefit (other than death)

Eligibility: Worker permanently ceases work due to old age, illness, or disability and has not earned the right to any other benefit.

Amount: Four percent of total Maximum Covered Earnings for which contributions have been paid, less the value of any benefits already paid.

SECTION V

AGE, SERVICE, BENEFIT, AND COMPENSATION DATA

A. Summary of Characteristics of Workers and Beneficiaries Included in the October 1, 2011 Valuation

Active Workers – Average Age, Average Completed Years of Service, and Average Valuation Compensation

| Worker | Number of Workers | Average Age | Average Completed Years of Service | Average Valuation Compensation |
|--------|-------------------|-------------|------------------------------------|--------------------------------|
| Men | 7,910 | 38.4 | 8.7 | \$ 6,597 |
| Women | 3,989 | 38.0 | 7.6 | 5,900 |
| Total | 11,899 | 38.3 | 8.9 | 6,363 |

The average annual accrued basic benefit is as of October 1, 2011 and is based on total remuneration for which contributions have been made through September 30, 2010.

| Status | Number | Average Age | Average Annual Accrued Basic Benefit |
|----------------------------|--------|-------------|--------------------------------------|
| Active | 11,899 | 38.8 | \$ 2,697 |
| Inactive and Fully Insured | 1,120 | 46.7 | 3,808 |
| Retired | 1,732 | 56.8 | 5,524 |
| Disabled | 230 | 43.0 | 4,024 |
| Spouse | 977 | 60.2 | 4,123 |
| Child | 885 | 14.4 | 956 |

Active Status- Not in pay status and currently earning additional benefits

Inactive and Fully Insured Status - Not in pay status, not currently earning additional benefits, and entitled to a benefit in the future. The number of inactive and fully insured has decreased due to the change in fully insured definition. The participants in this group needs to be further determined.

B. Compensation Summary

Average Compensation Distribution by Nearest Age and Covered Services – Men

| Nearest Age | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & More | Total |
|-------------|---------------------|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Under 20 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 |
| 20-24 | 380 \$2,431.47 | 15 \$5,339.44 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 395 \$2,541.90 |
| 25-29 | 944 \$3,606.94 | 253 \$7,963.71 | 11 \$10,298.73 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 1,208 \$4,580.35 |
| 30-34 | 618 \$3,986.26 | 560 \$7,325.36 | 138 \$10,833.96 | 2 \$17,064.50 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 1,318 \$6,141.82 |
| 35-39 | 354 \$4,088.47 | 457 \$6,975.25 | 350 \$10,007.07 | 104 \$13,254.21 | 4 \$14,205.79 | 0 \$0.00 | 0 \$0.00 | 1,269 \$7,543.53 |
| 40-44 | 218 \$5,022.35 | 294 \$6,828.14 | 289 \$8,477.69 | 253 \$12,037.06 | 116 \$14,601.27 | 8 \$12,515.85 | 0 \$0.00 | 1,178 \$8,821.43 |
| 45-49 | 160 \$4,471.17 | 168 \$7,268.38 | 175 \$7,947.64 | 207 \$9,715.50 | 220 \$12,711.47 | 89 \$15,243.15 | 3 \$17,497.27 | 1,022 \$9,338.63 |
| 50-54 | 92 \$6,156.07 | 109 \$6,676.82 | 119 \$8,139.84 | 112 \$9,002.91 | 185 \$10,931.73 | 195 \$14,559.49 | 23 \$16,236.29 | 835 \$10,186.83 |
| 55-59 | 60 \$6,403.48 | 66 \$8,139.02 | 70 \$7,900.60 | 62 \$8,275.14 | 67 \$12,620.78 | 102 \$13,834.34 | 59 \$17,567.02 | 486 \$10,865.50 |
| 60-64 | 27 \$6,566.18 | 26 \$10,707.97 | 19 \$9,433.22 | 23 \$12,319.90 | 10 \$10,132.07 | 13 \$13,324.58 | 23 \$17,841.23 | 141 \$11,370.01 |
| 65-69 | 11 \$13,181.10 | 10 \$13,210.20 | 7 \$13,122.88 | 3 \$15,177.29 | 1 \$4,309.50 | 2 \$11,929.91 | 2 \$19,519.24 | 36 \$13,380.38 |
| 70 & Older | 6 \$4,866.46 | 6 \$6,319.47 | 2 \$13,060.26 | 3 \$5,892.08 | 2 \$7,617.50 | 2 \$7,660.01 | 1 \$16,000.00 | 22 \$7,157.61 |
| Total | 2,870 \$3,955.42 | 1,964 \$7,294.67 | 1,180 \$9,127.65 | 769 \$10,841.36 | 605 \$12,456.07 | 411 \$14,402.36 | 111 \$17,367.27 | 7,910 \$7,606.76 |

B. Compensation Summary (continued)

Average Compensation Distribution by Nearest Age and Covered Services – Women

| Nearest Age | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & More | Total |
|-------------|---------------------|-------------------|--------------------|--------------------|--------------------|--------------------|-------------------|---------------------|
| Under 20 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 |
| 20-24 | 232 \$2,102.42 | 7 \$8,937.09 | 1 \$3,844.06 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 240 \$2,309.02 |
| 25-29 | 536 \$3,592.23 | 123 \$8,034.15 | 2 \$7,487.47 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 661 \$4,430.57 |
| 30-34 | 320 \$3,571.43 | 261 \$8,241.14 | 79 \$11,654.48 | 1 \$20,000.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 661 \$6,406.20 |
| 35-39 | 204 \$3,517.39 | 217 \$7,800.49 | 164 \$10,856.43 | 62 \$14,255.41 | 1 \$18,364.27 | 0 \$0.00 | 0 \$0.00 | 648 \$7,859.43 |
| 40-44 | 142 \$3,674.36 | 142 \$6,886.93 | 108 \$8,701.79 | 93 \$11,550.31 | 37 \$15,679.50 | 2 \$17,034.99 | 0 \$0.00 | 524 \$7,877.65 |
| 45-49 | 94 \$2,969.19 | 99 \$5,860.70 | 105 \$6,372.44 | 82 \$9,561.36 | 65 \$11,352.26 | 35 \$14,831.09 | 0 \$0.00 | 480 \$7,436.32 |
| 50-54 | 55 \$3,847.14 | 78 \$6,839.20 | 62 \$5,663.71 | 56 \$9,006.07 | 66 \$9,521.83 | 61 \$13,416.97 | 14 \$15,933.62 | 392 \$8,343.08 |
| 55-59 | 52 \$4,671.92 | 46 \$5,820.79 | 48 \$5,768.15 | 46 \$8,314.45 | 41 \$11,100.75 | 30 \$14,377.24 | 29 \$15,581.15 | 292 \$8,590.19 |
| 60-64 | 14 \$5,550.37 | 15 \$8,276.86 | 10 \$8,260.59 | 7 \$7,410.66 | 6 \$7,898.75 | 5 \$10,233.85 | 12 \$17,000.93 | 69 \$9,259.59 |
| 65-69 | 9 \$6,707.45 | 3 \$9,286.67 | 2 \$1,220.52 | 2 \$13,313.05 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 16 \$7,330.89 |
| 70 & Older | 3 \$3,200.73 | 0 \$0.00 | 3 \$3,248.77 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 0 \$0.00 | 6 \$3,224.75 |
| Total | 1,661 \$3,417.62 | 991 \$7,473.04 | 584 \$8,650.16 | 349 \$10,680.09 | 216 \$11,423.00 | 133 \$13,940.45 | 55 \$15,980.64 | 3,989 \$6,784.13 |

B. Compensation Summary (continued)

Average Compensation Distribution by Nearest Age and Covered Services – All Active Workers

| Nearest Age | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & More | Total |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 20-24 | 612 | 22 | 1 | 0 | 0 | 0 | 0 | 635 |
| | \$2,306.73 | \$6,484.15 | \$3,844.06 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$2,453.88 |
| 25-29 | 1,480 | 376 | 13 | 0 | 0 | 0 | 0 | 1,869 |
| | \$3,601.61 | \$7,986.75 | \$9,866.23 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$4,527.38 |
| 30-34 | 938 | 821 | 217 | 3 | 0 | 0 | 0 | 1,979 |
| | \$3,844.74 | \$7,616.49 | \$11,132.68 | \$18,043.00 | \$0.00 | \$0.00 | \$0.00 | \$6,230.13 |
| 35-39 | 558 | 674 | 514 | 166 | 5 | 0 | 0 | 1,917 |
| | \$3,879.69 | \$7,240.95 | \$10,278.08 | \$13,628.15 | \$15,037.49 | \$0.00 | \$0.00 | \$7,650.31 |
| 40-44 | 360 | 436 | 397 | 346 | 153 | 10 | 0 | 1,702 |
| | \$4,490.64 | \$6,847.29 | \$8,538.66 | \$11,906.23 | \$14,862.02 | \$13,419.68 | \$0.00 | \$8,530.87 |
| 45-49 | 254 | 267 | 280 | 289 | 285 | 124 | 3 | 1,502 |
| | \$3,915.32 | \$6,746.43 | \$7,356.94 | \$9,671.76 | \$12,401.47 | \$15,126.84 | \$17,497.27 | \$8,730.70 |
| 50-54 | 147 | 187 | 181 | 168 | 251 | 256 | 37 | 1,227 |
| | \$5,292.18 | \$6,744.55 | \$7,291.66 | \$9,003.96 | \$10,561.00 | \$14,287.25 | \$16,121.76 | \$9,597.79 |
| 55-59 | 112 | 112 | 118 | 108 | 108 | 132 | 88 | 778 |
| | \$5,599.54 | \$7,186.89 | \$7,033.16 | \$8,291.89 | \$12,043.73 | \$13,957.73 | \$16,912.59 | \$10,011.53 |
| 60-64 | 41 | 41 | 29 | 30 | 16 | 18 | 35 | 210 |
| | \$6,219.31 | \$9,818.54 | \$9,028.87 | \$11,174.41 | \$9,294.57 | \$12,466.04 | \$17,553.13 | \$10,676.59 |
| 65-69 | 20 | 13 | 9 | 5 | 1 | 2 | 2 | 52 |
| | \$10,267.96 | \$12,304.77 | \$10,477.91 | \$14,431.59 | \$4,309.50 | \$11,929.91 | \$19,519.24 | \$11,519.00 |
| 70 & Older | 9 | 6 | 5 | 3 | 2 | 2 | 1 | 28 |
| | \$4,311.22 | \$6,319.47 | \$7,173.37 | \$5,892.08 | \$7,617.50 | \$7,660.01 | \$16,000.00 | \$6,314.85 |
| Total | 4,531 | 2,955 | 1,764 | 1,118 | 821 | 544 | 166 | 11,899 |
| | \$3,758.27 | \$7,354.49 | \$8,969.57 | \$10,791.01 | \$12,184.27 | \$14,289.43 | \$16,907.85 | \$7,330.98 |

C. Accrued Benefit Detail

Average Accrued Benefit Distribution by Nearest Age, Sex and Status

| Nearest Age | ACTIVE EMPLOYEES | | | |
|----------------|------------------|-------------|--------|-------------|
| | Men | | Women | |
| | Number | Avg Acc Ben | Number | Avg Acc Ben |
| Under 20 | 0 | \$0.00 | 0 | \$0.00 |
| 20-24 | 240 | \$565.10 | 395 | \$653.38 |
| 25-29 | 661 | \$1,198.30 | 1,208 | \$1,287.90 |
| 30-34 | 661 | \$2,014.86 | 1,318 | \$2,008.50 |
| 35-39 | 648 | \$2,624.26 | 1,269 | \$2,697.87 |
| 40-44 | 524 | \$2,981.16 | 1,178 | \$3,426.70 |
| 45-49 | 480 | \$3,356.83 | 1,022 | \$4,059.49 |
| 50-54 | 392 | \$3,878.54 | 835 | \$4,784.26 |
| 55-59 | 292 | \$4,121.51 | 486 | \$5,115.90 |
| 60-64 | 69 | \$4,204.49 | 141 | \$4,859.50 |
| 65-69 | 16 | \$2,269.40 | 36 | \$3,968.79 |
| 70 & Older | 6 | \$1,620.20 | 22 | \$3,401.25 |
| Total | 3,989 | \$2,555.39 | 7,910 | \$2,965.13 |

SECTION VI

EXPLANATION OF THE UNFUNDED ACCRUED LIABILITY

Although the accrued liability is often discussed, not very many people other than actuaries, really understand the ins and outs of what it is. The accrued liability can be a fairly complicated concept to explain.

However, one can think of the accrued liability as the current value of benefits already earned including benefits that are already in pay status. The unfunded accrued liability is simply the accrued liability less the market value of assets. Both of these numbers change depending on when they are measured and the accrued liability changes depending on the actuarial assumptions and method used to calculate it.

An active worker will earn the right to a future retirement benefit along with other future benefits such as disability and survivor benefits. The dollar amount of each of these benefits depends on the total amount of his earnings on which social security tax has been paid. When the valuation is performed, the worker's current pay is projected into the future (up to the wage base) until his retirement age and then the dollar amount of the various benefits that he may become entitled to in the future is calculated. As part of the valuation process a theoretical annual payment on behalf of this worker is calculated, known as the "normal cost". The normal cost is the theoretical annual payment that, if made each year during the worker's years of employment, would be sufficient to fund all of his future potential benefits. It is important to note that the normal cost is calculated separately for each worker and that it is not necessarily equal to the amount contributed each year by the employee and his employer.

The accrued liability for someone who is still working is calculated as the current value of all benefits that he might receive in the future, less the current value of his future normal costs (not the employee and employer contributions actually collected). But more simply the accrued liability for an active worker can be approximated as the current accumulated value of all of his past normal costs (again, not employee and employer contributions actually collected).

For someone who is no longer working but is entitled to future benefits, the accrued liability is just the current value of all benefits that he might receive in the future. For someone who is currently receiving a benefit, the accrued liability is the current value of the benefits that are currently being paid and will continue into the future.

Having said all of this, perhaps a very simple example will illustrate the concept of the accrued liability for an active worker would be helpful.

Suppose you borrow \$12,000 from a good friend who is not going to charge you any interest and you promise to pay back all \$12,000 at once in 5 years. You plan to put a little bit aside each month and will keep the money in a box, not a bank and your savings will not earn any interest. (This example has been simplified by not assuming any interest to be paid or earned but it works with interest too.) Five years is 60 months, so if you put exactly \$200 into the box each and every month you will have accumulated exactly \$12,000 in 5 years. Think of this \$200 payment as the normal cost as described above.

Now let's say that you don't put \$200 in the box a few times. After 3 years you should have made 36 payments of \$200 and there should be \$7,200 in the box. This \$7,200 represents the "accrued liability" associated with your efforts to save money after 3 years. But when you count the money in the box you find that there is only \$6,800. The amount that is actually in the box represents the "market value of assets" at that point in time. When we subtract the market value of assets from the accrued liability, we arrive at the "unfunded accrued liability", which in this example is \$400 ($\$7,200 - \$6,800$). In other words, you have \$400 less than you would have if you had made each \$200 payment as was scheduled.

To follow the first definition of the accrued liability described above, we can calculate the current value of the future benefits as the value today of what you must pay in the future. This is still \$12,000, what you must pay in two more years. The current value today of what you should deposit in the future is 24 more payments of \$200 each, or \$4,800. We can now calculate the accrued liability as the value of what you need to pay in the future, less the value today of the remaining 24 month payments of \$200 each, which is \$7,200 ($\$12,000 - \$4,800$). In this very simple example, the accrued liability is the same either way it is calculated.

Now the \$400 shortfall may not be a bad thing. Maybe you missed two payments because you had other more pressing expenses and the next month you plan to put \$600 in the box. If you do, your accrued liability will be \$7,400 (one more month will have gone by so it has increased by \$200) but the market value of assets will be \$7,400 and the unfunded accrued liability has gone away.

Some would think it best if you made all of your payments exactly on time so that at any time there was no unfunded accrued liability. However the most important thing to you is that at the end of 5 years there is exactly \$12,000 in the box. A problem comes up if for some reason, there is not enough money in the box to pay off the debt when it comes due. This is the danger of an unfunded accrued liability that does not decrease over time, or even worse, one that increases over time. To expand on our example, you could borrow more money each year (increasing the accrued liability with each loan) until you have borrowed so much that you simply don't earn enough money to put sufficient funds in the box to ever pay it off. This would be like increasing and increasing benefits in a retirement system without a clear-cut plan on how to pay for the increases.