# PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM 

ACTUARIAL VALUATION AS OF DECEMBER 31, 2013

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June 11, 2014

Board of Trustees
Parochial Employees' Retirement System
P.O. Box 14619

Baton Rouge, LA 70898-4619
Ladies and Gentlemen:
We are pleased to present our report on the actuarial valuation of the Parochial Employees' Retirement System for the fiscal year ending December 31, 2013. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Parochial Employees' Retirement System. The primary purposes of the report are to determine the actuarially required contribution for the retirement system for the fiscal year ending December 31, 2014, to recommend the net direct employer contribution rate for fiscal 2015, and to provide information required for the system's financial statements. This report was prepared exclusively for the Parochial Employees' Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

Please note that significant changes in the accounting standards affecting retirement systems have been approved by the Governmental Accounting Standards Board. These changes, which are included in GASB Statement 67, will not be effective until the December 31, 2014 valuation. This report was prepared in accordance with the currently effective GASB Statement 25. GASB 67 will require the reporting of an alternative calculation of liabilities based upon a funding method and interest rate that may differ with those used for funding purposes. It is important to note that the liability numbers within this report are not a reasonable approximation of the liability numbers that will be reported under GASB 67.

This report has been prepared in accordance with generally accepted actuarial principles and practices, and to the best of our knowledge and belief, fairly reflects the actuarial present values and costs stated herein. The undersigned actuaries are members of the American Academy of Actuaries and have met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and are available to provide further information or answer any questions with respect to this valuation.

Sincerely,
G. S. CURRAN \& COMPANY, LTD.


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## SUMMARY OF VALUATION RESULTS PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM - PLAN A

| Valuation Date: | December 31, 2013 | December 31, 2012 |
| :---: | :---: | :---: |
| Census Summary: Active Members | 13,866 | 14,370 |
| Retired Members and Survivors | 6,242 | 5,991 |
| Terminated Due a Deferred Benefit | 683 | 561 |
| Terminated Due a Refund | 7,109 | 6,795 |
| Payroll: | \$ 543,669,542 | \$ 558,327,346 |
| Benefits in Payment: | \$ 124,299,785 | \$ 114,515,106 |
| Market Value of Assets: | \$ 3,043,479,814 | \$ 2,583,983,506 |
| Actuarial Asset Value (AVA): | \$ 2,760,148,403 | \$ 2,448,529,177 |
| Actuarial Accrued Liability (EAN - GASB 50): | \$ 2,984,143,643 | \$ 2,823,038,820 |
| Funded Ratio (GASB 50): <br> **************************************************** | $92.49 \%$ | $86.73 \%$ |
|  | 2014 | 2013 |
| Employers' Normal Cost (January 1): | \$ 75,371,169 | \$ 90,312,644 |
| Interest Adjusted Actuarially Required Contributions Including Estimated Administrative Costs: | \$ 79,351,725 | \$ 94,858,041 |
| Projected Ad Valorem and Revenue Sharing | \$ 7,269,075 | \$ 6,600,472 |
| Actuarially Required Net Direct Employer Contributions | \$ 72,082,650 | \$ 88,257,569 |
| Actuarially Required Net Direct Employer Contribution Rate | 13.07\% | 15.56\% |
| Actual Net Direct Employer Contribution Rate: | $16.00 \%$ | $16.75 \%$ |

Minimum Net Direct Employer Contribution Rate: For Fiscal 2015: 13.00\% For Fiscal 2014: 15.50\%
Employee Contribution Rate: $9.50 \%$ of Payroll
Actuarial Cost Method: The Aggregate Actuarial Cost Method
Valuation Interest Rate: 7.25\% (Net of Investment Expense)
Census Exclusions: All individuals submitted by the system were included in the valuation.
Basis of Actuarial Asset Value: The actuarial value of assets is based on the market value of assets adjusted to average in asset earnings above or below the assumed rate of return over a five-year period subject to a corridor limit of $85 \%$ to $115 \%$ of the market value of assets. If the smoothed value lies outside of the corridor limit the actuarial value is determined by averaging the smoothed value with the corridor limit.

Changes in Valuation Methods, Assumptions, and Amortization Periods: The valuation interest rate was lowered from $7.5 \%$ to $7.25 \%$ as of December 31, 2013.

Method of Recognizing Gains and Losses: Under the Aggregate Actuarial Cost Method, actuarial gains and losses are spread over future normal costs.

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# SUMMARY OF VALUATION RESULTS PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM - PLAN B 

Valuation Date:
Census Summary


December 31, 2013
December 31, 2012

Minimum Net Direct Employer Contribution Rate: For Fiscal 2015: 8.50\% For Fiscal 2014: 9.25\%
Employee Contribution Rate: $3.00 \%$ of salary

Actuarial Cost Method: The Aggregate Actuarial Cost Method
Valuation Interest Rate: $7.25 \%$ (Net of Investment Expense)
Census Exclusions: All individuals submitted by the system were included in the valuation.
Basis of Actuarial Asset Value: The actuarial value of assets is based on the market value of assets adjusted to average in asset earnings above or below the assumed rate of return over a five-year period subject to a corridor limit of $85 \%$ to $115 \%$ of the market value of assets. If the smoothed value lies outside of the corridor limit the actuarial value is determined by averaging the smoothed value with the corridor limit

Changes in Valuation Methods, Assumptions, and Amortization Periods: The valuation interest rate was lowered from $7.5 \%$ to $7.25 \%$ as of December 31, 2013.

Method of Recognizing Gains and Losses: Under the Aggregate Actuarial Cost Method, actuarial gains and losses are spread over future normal costs.

## COMMENTS ON DATA

For the valuation, the administrative director of the system furnished a census on magnetic diskette derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in like manner. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit IX, there are 13,866 active members in Plan A, of whom, 7,156 members, including 726 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 6,242 former members of Plan A or their beneficiaries are receiving retirement benefits. An additional 7,792 former members of Plan A have contributions remaining on deposit with the system. This includes 683 former members who have vested rights or have filed reciprocal agreements for future retirement benefits. Census data on members of Plan B may be found in Exhibit XIX. There are 2,288 active members in Plan B, of whom, 1,102 members, including 64 DROP participants, have vested retirement benefits; 688 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional, 1,685 former members of Plan B have contributions remaining on deposit with the system. Of this number, 135 have vested rights or have filed reciprocal agreements for future retirement benefits. All individuals submitted were included in the valuation.

Census data submitted to our office is tested for errors. Several types of census data errors are possible; to ensure that the valuation results are as accurate as possible, a significant effort is made to identify and correct these errors. In order to minimize coverage errors (i.e., missing or duplicated individual records) the records are checked for duplicates, and a comparison of the current year's records to those submitted in prior years is made. Changes in status, new records, and previous records which have no corresponding current record, are identified. This portion of the review indicates the annual flow of members from one status to another and is used to check some of the actuarial assumptions, such as retirement rates, rates of withdrawal, and mortality. In addition, the census is checked for reasonableness in several areas, such as age, service, salary, and current benefits. The records identified by this review as questionable are checked against data from prior valuations; those not recently verified are included in a detailed list of items sent to the system's administrator for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

In addition to the statistical information provided on the system's participants, the system's administrative director furnished general information related to other aspects of the system's expenses, benefits and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Duplantier, Hrapmann, Hogan \& Maher, L.L.P. As indicated in the system's audit report, the net market value of Plan A's assets was $\$ 3,043,479,814$ as of December 31, 2013. For Plan A, the net investment income for fiscal 2013 measured on a market value basis amounted to a gain of $\$ 466,506,796$. Contributions to Plan A for the fiscal year totaled $\$ 149,833,959$; benefits and expenses amounted to $\$ 156,844,447$.

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The net market value of Plan B's assets was $\$ 237,412,166$ as of December 31, 2013. For Plan B, the net investment income for fiscal 2013 measured on a market value basis amounted to $\$ 35,150,978$. Contributions to Plan B for the fiscal year totaled $\$ 13,377,008$; benefits and expenses amounted to \$7,692,965.

Notwithstanding our efforts to review both census and financial data for apparent errors, we must rely upon the system's administrative staff and accountants to provide accurate information. Our review of submitted information is limited to validation of reasonableness and consistency. Verification of submitted data to source information is beyond the scope of our efforts.

## COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

Plan A was previously funded under the Frozen Attained Age Normal Cost Method. The Frozen Unfunded Accrued Liability was fully amortized in fiscal 2012. Hence, for the fiscal 2013 valuation, the system's funding method was changed to the Aggregate Actuarial Cost Method. Plan B is funded utilizing the Aggregate Actuarial Cost Method. This method does not develop an unfunded actuarial liability. Under the Aggregate Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In both plans, benefit and assumption changes are spread over future normal costs. Under the provisions of R.S. 11:105, the Board of Trustees froze the employer contribution rate in Plan A for fiscal 2008 and several other fiscal years prior to that. As prescribed in R.S. 11:105, excess funds if any, generated by these freezes of the employer contribution rate (prior to fiscal 2008) were allocated to reduce the frozen unfunded accrued liability. Effective with fiscal 2008, for both Plans A and B, any excess funds collected pursuant to R. S. 11:105 or R. S. 11:107 are allocated to the Funding Deposit Account. The Funding Deposit Account credit balance as of the end of the prior fiscal year for Plans A and B was $\$ 4,574,933$ and $\$ 1,559,909$, respectively. Both accounts were increased with interest at $7.50 \%$ for the year. A freeze in the employer contribution rate in Plan B for fiscal 2013 resulted in a contribution gain of $\$ 450,057$ as of December 31, 2013. When interest and additional contributions were added to the Funding Deposit Accounts, the resulting balances as of December 31, 2013 for Plans A and B were $\$ 4,918,053$ and $\$ 2,126,959$, respectively.

The actuarial assumptions utilized for the report are outlined on pages $60-65$. With the exception of a change in the valuation interest rate from $7.50 \%$ to $7.25 \%$, all assumptions used were the same as those utilized in the prior valuation. This change was made to reduce the risk inherent within the plans related to the future ability of the retirement system to earn a sufficient return on its assets to meet or exceed its assumed rate of investment return assumption. The decrease in the assumed interest rate increased the normal cost accrual rate by $2.46 \%$ in Plan A and $1.42 \%$ in Plan B. In the aggregate the assumptions represent our "best estimate" of future long-term experience for the fund. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed, adjustments will be required to future contribution levels. Such differences will be revealed in future actuarial valuations.

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## CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2013 Regular Session of the Louisiana Legislature:

Act 170 allows statewide retirement system boards to make an irrevocable election to have future benefit increases for retirees that are now governed by R.S. 11:242 (Target Ratio Method) to apply a new method under R.S. 11:243. Under R.S. 11:243 systems may grant a Cost of Living Adjustment (COLA) if any of the following apply: a) The system has a funded ratio of $90 \%$ or more and has not granted a COLA in the most recent fiscal year; b) The system has a funded ratio of $80 \%$ or more and has not granted a COLA in either of the two most recent fiscal years; c) The system has a funded ratio of $70 \%$ or more and has not granted a COLA in any of the three most recent fiscal years.

Act 365 gives members of statewide retirement systems the option to purchase the accrual rate of the receiving system at time of transfer if said accrual rate is greater that the accrual rate of the transferring system. It also allows said members to execute a reverse transfer only one time, at the time of retirement or during active service if submitted to the receiving system on or before December 31, 2013.

## ASSET EXPERIENCE

The actuarial and market rates of return for the past ten years are given below. These rates of return on assets were determined by assuming a uniform distribution of income and expense throughout the fiscal year.

| $\frac{\text { Plan A }}{2004}$ | Market Value | Actuarial Value |
| :---: | :---: | :---: |
| 2005 | $10.2 \%$ | $6.9 \%$ |
| 2006 | $6.3 \%$ | $11.1 \%$ |
| 2007 | $12.8 \%$ | $11.3 \%$ |
| 2008 | $7.9 \%$ | $*$ |
| 2009 | $-25.7 \%$ | $-4.1 \%$ |
| 2010 | $20.6 \%$ | $9.1 \%$ |
| 2011 | $15.2 \%$ | $4.4 \%$ |
| 2012 | $-0.7 \%$ | $2.9 \%$ |
| 2013 | $15.6 \%$ | $4.2 \%$ |
|  | $18.1 \%$ | $13.0 \%$ |
| Plan B |  |  |
| 2004 | $\underline{\text { Market Value }}$ |  |
| 2005 | $9.6 \%$ | $\underline{\text { Actuarial Value }}$ |
| 2006 | $5.1 \%$ | $8.5 \%$ |
| 2007 | $11.6 \%$ | $10.6 \%$ |
| 2008 | $7.7 \%$ | $9.8 \%$ |
| 2009 | $-25.0 \%$ | $* 3.4 \%$ |
| 2010 | $20.7 \%$ | $-5.2 \%$ |
| 2011 | $15.4 \%$ | $8.8 \%$ |
| 2012 | $-0.7 \%$ | $4.6 \%$ |
| 2013 | $15.8 \%$ | $3.2 \%$ |
|  | $17.6 \%$ | $4.8 \%$ |
|  |  | $12.8 \%$ |
|  | $\mathbf{5 -}$ |  |
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* Includes effect of change in asset valuation method. Effective with the 2007 valuation the method was changed from smoothing capital gains and losses over 3 years to smoothing investment earnings above or below the assumed rate of return over a five year period with a $+/-10 \%$ of market value corridor limit.
**
Includes effects of change in asset valuation method. Effective with the 2008 valuation the corridor limits on the smoothed value were changed from $+/-10 \%$ of market value to $+/-15 \%$ with smoothed values averaged with corridor limits when they fall outside the corridor limits.

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income. This rate of return gives an indication of performance for an actively managed portfolio where securities are bought and sold with the objective of producing the highest total rate of return. During 2013, Plan A earned \$31,035,651 and Plan B earned $\$ 2,375,331$ of dividends, interest and other recurring income. In addition, Plan A had net realized and unrealized capital gains on investments of $\$ 446,915,095$ while the total of such gains for Plan B amounted to $\$ 33,672,548$. Investment expenses were $\$ 11,443,950$ for Plan A and $\$ 896,901$ for Plan B. The geometric mean of the market value rates of return measured over the last ten years was $7.2 \%$ for Plan A and $6.9 \%$ for Plan B. For the last twenty years, the geometric mean returns were $7.7 \%$ for Plan A and $7.3 \%$ for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of $7.5 \%$ used for the prior valuation. The current assumed rate of return is $7.25 \%$. This rate is calculated based on the smoothed value of assets subject to constraints as given in Exhibit VI for Plan A and Exhibit XVI for Plan B. Investment income used to calculate this yield is based upon a smoothing of investment income above or below the valuation interest rate. The difference between rates of return on an actuarial and market value basis results from the smoothing utilized. In the future, yields in excess of the $7.25 \%$ assumption will reduce future costs; yields below $7.25 \%$ will increase future costs. Net actuarial investment earnings exceeded the actuarial assumed earnings rate of $7.5 \%$, used for fiscal 2013, by $\$ 135,248,166$ for Plan A and $\$ 10,037,676$ for Plan B. These earnings surpluses produced actuarial gains which decreased the normal cost accrual rate by $3.0888 \%$ for Plan A and $1.4454 \%$ for Plan B.

At the end of each fiscal year, a review of the data is made to identify current members of Plan A and Plan B who have consecutive service credit in both plans that have not been addressed in previous transfers of assets and liabilities between the Plan A and Plan B trust funds pursuant to the provisions of R.S. 11: 2012. In the course of reviewing data for the December 31, 2013 valuation we found members of Plan A and Plan B with such service and recommend a transfer of $\$ 878,957$ be made from the Plan A trust to the Plan B trust for fiscal 2013.

## PLAN A - DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member is 46 years old with 10.2 years of service and an annual salary of $\$ 39,209$. The plan's active membership, inclusive of DROP participants, decreased by 504 members during the fiscal year. The plan has experienced a decrease in the active plan population of 507 members over the last five years. A review of the active census by age indicates that over the last ten years the population under age fifty has decreased while the proportion of active members age fifty-one and above increased. Over the same ten-year period the plan showed a fairly stable distribution among the various service groups. The average regular retiree is 71 years old with a monthly benefit of $\$ 1,853$. The number of retirees

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and beneficiaries receiving benefits from the system increased by 251 during the fiscal year; over the last five years the number of retirees has increased by 1,007 .

Plan liability experience for fiscal 2013 was favorable. Withdrawals were above projected levels, disabilities were below projected levels and retiree deaths were above projected levels. In addition, salary increases were below projected levels. All of these factors tend to reduce costs. Retirements were at projected levels. However, DROP entries were significantly above projected levels, which tend to offset the plan's positive experience. Plan liability gains decreased the normal cost accrual rate by $1.0364 \%$.

## PLAN B - DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XIX. The average active member is 46 years old with 9.50 years of service and an annual salary of $\$ 38,972$. The plan's active membership, inclusive of DROP participants, decreased by 10 members during the fiscal year. The plan has experienced an increase in the active plan population of 94 members over the last five years. A review of the active census by age indicates that over the last ten years the population in the under fifty age group has decreased while the proportion of active members over age fifty increased. Over the same ten-year period the plan showed a decrease in the under-five year service group and an increase in active membership in the group with more than 25 years of service. The population by service was relatively stable at other ages. The average regular retiree is 73 years old with a monthly benefit of $\$ 878$. The number of retirees and beneficiaries receiving benefits from the system increased by 31 during the fiscal year; over the last five years the number of retirees has increased by 140 .

Plan liability experience for fiscal 2013 was favorable. Retirements were below projected levels and retiree deaths were above projected levels. In addition, salary increases were significantly below projected levels. All of these factors tend to reduce costs. Withdrawals and disabilities were at projected levels. DROP entries were somewhat above projected levels. Plan liability gains decreased the normal cost accrual rate by $0.4895 \%$.

## FUNDING ANALYSIS AND RECOMMENDATIONS

Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Each year a determination is made of the normal cost, and the actuarially required contributions are based on the sum of this value and administrative expenses. Under the funding method used for the plan, changes in plan experience, benefits, or assumptions increase or decrease future normal costs. In addition excess or deficient contributions can decrease or increase future costs.

In order to establish the actuarially required contribution in any given year, it is necessary to define the assumptions and funding method. Thus, the determination of what contribution is actuarially required depends upon the funding method employed. Regardless of the method selected, the ultimate cost of

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providing benefits is dependent upon the benefits, expenses, and investment earnings. Only to the extent that some methods accumulate assets more rapidly and thus produce greater investment earnings does the funding method affect the ultimate cost.

Under the provisions of R.S. 11:103, excess or deficient contributions typically decrease or increase future normal costs. However, if the minimum net direct employer contribution is scheduled to decrease, the board may maintain the contribution rate at some level above the minimum recommended rate. Pursuant to R. S. 11:105 and R. S. 11:107, such excess contributions are credited to the Funding Deposit Account.

For Plan A, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for fiscal 2014 as of January 1, 2014 is $\$ 75,371,169$. The total actuarially required contribution is determined by adjusting the value for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given on line 12 of Exhibit I the total actuarially required contribution for fiscal 2014 is $\$ 79,351,725$. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for fiscal 2014 is $\$ 72,082,650$. This is $13.07 \%$ of the projected Plan A payroll for fiscal 2014.

Liability and asset experience as well as changes in assumptions and benefits can increase or lower plan costs. In addition to these factors, any COLA granted in the prior fiscal year will increase required contributions. New entrants to the system can also increase or lower costs as a percent of payroll depending upon their demographic distribution and other factors related to prior plan experience. Finally, contributions above or below requirements may reduce or increase future costs.

The effects of various factors on the cost structure for Plan A are outlined below:

$$
\begin{array}{ll}
\text { Employer's Normal Cost Accrual Rate - Fiscal } 2013 & 17.2914 \% \\
\text { Factors Increasing the Normal Cost Accrual Rate: } & \\
\text { Assumption Change } & 2.4557 \% \\
\text { Factors Decreasing the Normal Cost Accrual Rate: } & \\
\text { Asset Experience } & 3.0888 \% \\
\text { Plan Liability Experience } & 1.0364 \% \\
\text { New Members } & 0.6354 \% \\
\text { Contribution Experience } & 0.1006 \% \\
\text { Employer's Normal Cost Accrual Rate - Fiscal } 2014 & 14.8859 \%
\end{array}
$$

Required net direct employer contributions are also affected by the available ad valorem taxes and revenue sharing funds which the system receives each year. When these funds change as a percentage of payroll, net direct employer contributions are adjusted accordingly. We estimate that for Plan A these funds collected in fiscal 2014 will increase by $0.16 \%$ of payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for fiscal 2014 for Plan A of $13.07 \%$; the actual employer contribution rate for fiscal 2014 is $16.00 \%$ of payroll. R.S. 11:103 requires that the net direct employer contributions be

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rounded to the nearest $0.25 \%$, hence we are recommending a minimum net direct employer contribution rate for Plan A of $13.00 \%$ for fiscal 2015.

For Plan B, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit XI. The normal cost for fiscal 2014 as of January 1, 2014 is $\$ 8,507,432$. The total actuarially required contribution is determined by adjusting the value for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given on line 12 of Exhibit XI the total actuarially required contribution for fiscal 2014 is $\$ 9,023,012$. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for fiscal 2014 is $\$ 7,906,534$. This is $8.60 \%$ of the projected Plan B payroll for fiscal 2014.

The effects of various factors on the cost structure for Plan B are outlined below:

$$
\begin{array}{ll}
\text { Employer's Normal Cost Accrual Rate - Fiscal } 2013 & 11.0966 \% \\
\text { Factors Increasing the Normal Cost Accrual Rate: } & \\
\text { Assumption Change } & 1.4213 \% \\
\text { Factors Decreasing the Normal Cost Accrual Rate: } & \\
\text { Asset Experience } & 1.4454 \% \\
\text { Liability Experience } & 0.4895 \% \\
\text { New Members } & 0.3049 \% \\
\text { Contribution Experience } & 0.0000 \% \\
\text { Employer's Normal Cost Accrual Rate - Fiscal } 2014 & 10.2800 \%
\end{array}
$$

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in fiscal 2014 will increase by $0.07 \%$ of payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for fiscal 2014 for Plan B of $8.60 \%$; the actual employer contribution rate for fiscal 2014 is $9.25 \%$ of payroll. R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest $0.25 \%$, hence we are recommending a minimum net direct employer contribution rate for Plan B of $8.50 \%$ for fiscal 2015.

For Plan A, the Board may set the rate at any rate between $13.00 \%$ and $16.00 \%$. For Plan B, the board may set the rate at any rate between $8.50 \%$ and $9.25 \%$. Should the net direct employer contribution rate be set at a level above the minimum rate under R.S. 11:107, the resulting additional contributions paid by the employers, if they exceed any potential contribution losses, would be added to the Funding Deposit Account for both Plans A and B.

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, completion of amortization payments or credit schedules, and changes in plan provisions or applicable law. Analysis of the effect of all these factors is beyond the scope of this report.

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We have, however, calculated the sensitivity of the plans' costs to two factors. First, based on current assets and demographics, for each percentage under (over) performance of the return on the actuarial value of assets, there will be a corresponding increase (reduction) in the normal cost accrual rate of $0.63 \%$ for Plan A and $0.31 \%$ for Plan B. We have also determined that a $1 \%$ reduction in the valuation interest rate for Plan A would increase the actuarially required contribution rate for fiscal 2013 by $10.10 \%$; for Plan B the increase would be $5.83 \%$.

## COST OF LIVING INCREASES

During calendar 2013 the actual cost of living (as measured by the US Department of Labor CPI-U) increased by $1.50 \%$. Cost of living provisions for the system are detailed in R.S. 11:1937 and R.S. 11:246. The former statute allows the board to use interest earnings in excess of the normal requirements to grant annual cost of living increases of $2.50 \%$ of the current benefit to retirees aged 62 or over, who have been retired at least one year. R.S. 11:246 provides cost of living increases to retirees and beneficiaries over the age of 65 equal to $2 \%$ of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides that cost of living benefits shall be in the form (unless the board otherwise specifies) of $\$ \mathrm{X} \times(\mathrm{A}+\mathrm{B})$ where X is at most $\$ 1$ and " A " represents the number of years of credited service accrued at retirement or at death of the member or retiree and " B " is equal to the number of years since retirement or since death of the member or retiree to December $31^{\text {st }}$ of the initial year of such increase. The provisions of this subpart do not repeal provisions relative to cost of living adjustments contained within the individual laws governing systems; however, they are to be controlling in cases of conflict.

All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases. For fiscal 2013, excess interest earnings exceed the increase in liabilities generated by the potential cost of living increases under both statutes. The plans also must meet the criteria established in R.S. 11:243. This section allows cost of living increases to be paid either by utilizing funds in the Funding Deposit Account or meeting the target ratio defined in the statute. The effects of the COLAs authorized by R.S. 11:1937 and R.S. 11:246 are given below. There is insufficient information on the system's database to determine the cost of a COLA authorized by R.S. 11:241.

## Annual <br> Increase in Benefits <br> Annual Increase in Benefits

R.S. 11:1937-2 1/2\% of current benefit to pensioners over age 62
R.S. 11:246-2\% of original benefit to pensioners over age 65
\$ 2,237,654
\$ 1,395,301
\$ 11,735,362
$0.27 \%$
Contribution Cost as a \% of Payroll
0.45\%

Present Value of Increase
\$ 19,505,349

Annual<br>PLAN B COLA Descriptions<br>Annual Increase in Benefits

Present Value of Increase of
\$ 1,251,716
$0.18 \%$ benefit to pensioners over age 62
R.S. 11:246-2\% of original benefit to pensioners over age 65

## Plan A - Components of Present Value of Future Benefits December 31, 2013



- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
$\square$ Actuarial Value of Assets

Plan A - Components of Present Value of Future Benefits


## Plan A - Components of Actuarial Funding



Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll
Plan A - Actuarial Value of Assets vs. EAN Accrued Liability


Plan A - Net Non-Investment Income


|  |  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Non-Investment Income (\$Mil) |  | 91.7 | 102.3 | 99.0 | 108.2 | 118.6 | 121.9 | 143.4 | 144.8 | 146.4 | 149.8 |
| Benefits and Expenses (\$Mil) | $\square$ | 75.6 | 83.7 | 90.1 | 94.1 | 102.3 | 108.1 | 114.8 | 124.6 | 140.9 | 156.8 |
| Net Non-Investment Income (\$Mil) |  | 16.1 | 18.6 | 8.9 | 14.1 | 16.3 | 13.8 | 28.6 | 20.2 | 5.5 | -7.0 |

Plan A - Total Income vs. Expenses
(Based on Market Value of Assets)


|  |  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Total Income (\$Mil) |  | 237.1 | 202.2 | 315.9 | 260.2 | -419.2 | 446.2 | 435.7 | 130.1 | 494.4 |
| Benefits and Expenses (\$Mil) | $\square$ | 75.6 | 83.7 | 90.1 | 94.1 | 102.3 | 108.1 | 114.8 | 124.6 | 140.9 |
| Net Change in MVA (\$Mil) |  |  | 161.5 | 118.5 | 225.8 | 166.1 | -521.5 | 338.1 | 320.9 | 5.5 |



Plan A - Active - Census By Age
(as a percent)

Plan A - Active - Census By Service (as a percent)
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G. S. Curran \& Company, Ltd.

Plan A - Historical Asset Yield


## Plan B - Components of Present Value of Future Benefits December 31, 2013


$\square$ Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
$\square$ Present Value of Future Employee Contributions
$\square$ Actuarial Value of Assets

## Plan B - Components of Present Value of Future Benefits



Plan B - Components of Actuarial Funding


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll
Plan B - Actuarial Value of Assets vs. EAN Accrued Liability

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G. S. Curran \& Company, Ltd.

## Plan B - Net Non-Investment Income



|  |  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Non-Investment Income (\$Mil) |  | 5.3 | 5.6 | 6.0 | 6.4 | 7.4 | 8.3 | 11.7 | 11.8 | 12.2 | 13.3 |
| Benefits and Expenses (\$Mil) | $\square$ | 3.8 | 4.3 | 4.8 | 5.1 | 5.6 | 6.1 | 6.1 | 6.9 | 7.7 | 7.7 |
| Net Non-Investment Income (\$Mil) | $\square$ | 1.5 | 1.3 | 1.2 | 1.3 | 1.8 | 2.2 | 5.6 | 4.9 | 4.5 | 5.6 |

Plan B - Total Income vs. Expenses
(Based on Market Value of Assets)


|  |  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Total Income (\$Mil) |  | 14.9 | 11.3 | 19.8 | 16.6 | -28.8 | 31.3 | 32.9 | 10.8 | 38.7 | 48.5 |
| Benefits and Expenses (\$Mil) | $\square$ | 3.8 | 4.3 | 4.8 | 5.1 | 5.6 | 6.1 | 6.1 | 6.9 | 7.7 | 7.7 |
| Net Change in MVA (\$Mil) | $\square$ | 11.1 | 7.0 | 15.0 | 11.5 | -34.4 | 25.2 | 26.8 | 3.9 | 31.0 | 40.8 |



Plan B - Historical Asset Yield


## EXHIBIT I <br> PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits ..... \$ 3,777,389,778
2. Funding Deposit Account Credit Balance ..... 4,918,053
3. Actuarial Value of Assets ..... \$ 2,760,148,403
4. Present Value of Future Employee Contributions ..... \$ 370,352,485
5. Present Value of Future Employer Normal Costs (1+2-3-4) ..... \$ 651,806,943
6. Present Value of Future Salaries ..... \$ 4,378,696,441
7. Employer Normal Cost Accrual Rate $(5 \div 6)$ ..... $14.885867 \%$
8. Projected Fiscal 2014 Salary for Current Membership ..... \$ 506,327,034
9. Employer Normal Cost as of January 1, 2014 (7x 8) ..... \$ 75,371,169
10. Employer Normal Cost and Amortization Payment Interest Adjusted for Midyear Payment ..... \$ 78,055,570
11. Estimated Administrative Cost for Fiscal 2014 ..... \$ ..... 1,296,155
12. TOTAL Administrative and Interest Adjusted Actuarial Costs $(10+11)$ ..... \$ ..... 79,351,725
13. Estimated Ad Valorem Tax Contributions for Fiscal 2014 ..... \$ ..... 7,132,288
14. Estimated Revenue Sharing Funds for Fiscal 2014 ..... \$ ..... 136,787
15. Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2014 (12-13-14) ..... \$ ..... 72,082,650
16. Projected Payroll for Fiscal 2014 ..... \$ 551,646,399
17. Employers' Minimum Net Direct Actuarially Required Contribution as a \% of Projected Payroll for Fiscal $2014(15 \div 16)$ ..... $13.07 \%$
18. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2015 (17, Rounded to nearest 0.25\%) ..... $13.00 \%$

## EXHIBIT II PLAN A: PRESENT VALUE OF FUTURE BENEFITS

## PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits\$ 2,288,642,723
Survivor Benefits. ..... 44,054,819
Disability Benefits ..... 53,934,459
Vested Termination Benefits ..... 78,011,344
Refunds of Contributions ..... 55,694,481
TOTAL Present Value of Future Benefits for Active Members ..... \$ ..... $2,520,337,826$
PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:
Terminated Vested Members Due Benefits at Retirement. ..... \$ 66,415,700
Terminated Members with ReciprocalsDue Benefits at Retirement172,146
Terminated Members Due a Refund ..... 9,534,718
TOTAL Present Value of Future Benefits for Terminated Members ..... \$
76,122,564
PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees

Regular Retirees

Regular Retirees

Regular Retirees

Regular Retirees .....  .....  .....  .....  ..... \$ 534,602,775 .....  .....  .....  .....  ..... \$ 534,602,775 .....  .....  .....  .....  ..... \$ 534,602,775 .....  .....  .....  .....  ..... \$ 534,602,775 .....  .....  .....  .....  ..... \$ 534,602,775

Maximum.
Option 1

$$
\text { Option } 2
$$

$\qquad$
$\qquad$

Option 3

Option 3

Option 3

Option 3

Option 3 .....  .....  .....  ..... 1,859,377 .....  .....  .....  ..... 1,859,377 .....  .....  .....  ..... 1,859,377 .....  .....  .....  ..... 1,859,377 .....  .....  .....  ..... 1,859,377

Option 4

Option 4

Option 4

Option 4

Option 4 .....  ..... 292,611,126 .....  ..... 292,611,126 .....  ..... 292,611,126 .....  ..... 292,611,126 .....  ..... 292,611,126
Maximum.
Maximum.
Maximum.
Maximum.
Maximum. ..... 146,174,696 ..... 146,174,696 ..... 146,174,696 ..... 146,174,696 ..... 146,174,696 ..... 59,084,467 ..... 59,084,467 ..... 59,084,467 ..... 59,084,467 ..... 59,084,467
TOTAL Regular Retirees ..... \$ 1,034,332,441
Disability Retirees ..... 70,884,404
Survivors \& Widows ..... 74,134,208
Reserve for Accrued Retiree DROP Account Balances ..... 1,578,335
TOTAL Present Value of Future Benefits for Retirees \& Survivors ..... \$ 1,180,929,388
TOTAL Present Value of Future Benefits ..... \$ ..... $3,777,389,778$

## EXHIBIT III - SCHEDULE A PLAN A: MARKET VALUE OF ASSETS

CURRENT ASSETS:
Cash in Banks ..... \$ 6,976,278
Contributions Receivable ..... 24,024,869
Ad Valorem Taxes Receivable \& Revenue Sharing ..... 6,855,544
Accrued Interest and Dividends ..... 574,023
Investments Receivable ..... 1,927,998
Due from Other Funds ..... 1,057,564
Due to Plan A ..... $(878,957)$
TOTAL CURRENT ASSETS ..... \$ ..... 40,537,319
Property Plant \& Equipment ..... \$
Deposits ..... \$
INVESTMENTS:
Common Trust Funds ..... \$ 1,306,663,438
Foreign Equities Fund ..... 616,354,635
Common Stock ..... 584,394,030
Foreign Fixed Income ..... 281,498,739
Hedge Funds ..... 89,735,683
Bond Funds ..... 64,414,314
Government Agency Bonds ..... 32,625,755
Cash Equivalents ..... 31,624,588
Corporate Bonds ..... 7,151,486
Private Equity Funds ..... 3,215,085
TOTAL INVESTMENTS ..... \$ ..... $3,017,677,753$
TOTAL ASSETS ..... \$ ..... 3,058,904,916
CURRENT LIABILITIES:
Retirements Payable ..... \$ 11,263,160
Accounts Payable ..... 1,898,102
Investments Payable ..... 1,436,959
Refunds Payable ..... 372,428
Other Post-Employment Benefits Payable ..... 439,818
Withholding Taxes Payable ..... 10,364
Accrued Leave Payable ..... 4,271
TOTAL CURRENT LIABILITIES ..... \$$15,425,102$
MARKET VALUE OF ASSETS ..... \$

## EXHIBIT III - SCHEDULE B PLAN A - ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of invested incomefor current and previous 4 years:
Fiscal year 2013 ..... \$ 272,966,174
Fiscal year 2012 ..... \$ 180,555,953
Fiscal year 2011 ..... (182,360,994)
Fiscal year 2010 ..... 147,846,491
Fiscal year 2009 ..... 206,437,835
Total for five years ..... \$ 625,445,459
Deferral of excess (shortfall) of invested income:
Fiscal year 2013 (80\%) ..... \$ 218,372,939
Fiscal year 2012 (60\%) ..... 108,333,572
Fiscal year 2011 (40\%) ..... (72,944,398)
Fiscal year 2010 (20\%) ..... 29,569,298
Fiscal year 2009 ( 0\%)0
Total deferred for year ..... \$ 283,331,411
Market value of plan net assets, end of year ..... \$ 3,043,479,814
Preliminary actuarial value of plan assets, end of year ..... \$ 2,760,148,403
Actuarial value of assets corridor
$85 \%$ of market value, end of year ..... \$ 2,586,957,842
$115 \%$ of market value, end of year ..... \$ 3,500,001,786Final actuarial value of plan net assets, end of year\$ 2,760,148,403
EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS
Employee Contributions to the Annuity Savings Fund ..... \$
Employer Normal Contributions to the Pension Accumulation Fund ..... 651,806,943
Funding Deposit Account Credit Balance ..... $(4,918,053)$
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS ..... \$ ..... $1,017,241,375$
EXHIBIT V
PLAN A: RECONCILIATION OF CONTRIBUTIONS
Employer Normal Cost for Prior Year. ..... \$ 90,312,644
Interest on the Normal Cost ..... 6,773,448
Administrative Expenses ..... 1,256,429
Interest on Expenses ..... 46,265
TOTAL Interest Adjusted Actuarially Required Contributions . ..... \$98,388,786
Direct Employer Contributions ..... \$ 92,212,306
Interest on Employer Contributions. ..... 3,395,448
Ad Valorem Taxes and Revenue Sharing ..... 6,931,584
Interest on Ad Valorem Taxes and Revenue Sharing Funds

$\qquad$ ..... 255,235
TOTAL Interest Adjusted Employer Contributions ..... \$
CONTRIBUTION SURPLUS ..... \$102,794,573

## EXHIBIT VI <br> PLAN A: ANALYSIS OF INCREASE IN ASSETS

Actuarial Value of Assets (December 31, 2012) ..... \$ 2,448,529,177
INCOME:
Employer Contributions ..... \$ 92,212,306
Member Contributions ..... 48,874,525
Ad Valorem Taxes ..... 6,791,930
Revenue Sharing. ..... 139,654
Purchases and Transfers of Service Credit ..... 2,337,490
Irregular Contributions ..... 357,011
Transfers to Plan B ..... $(878,957)$
Total Contributions ..... \$ 149,833,959
Net Appreciation in Fair Value of Investments ..... \$446,858,139
Interest \& Dividends ..... 31,035,651
Class Action Settlement ..... 56,956
Investment Expense ..... (11,443,950)
Net Investment Income ..... \$ 466,506,796
TOTAL Income ..... \$ 616,340,755
EXPENSES:
Retirement Benefits ..... \$ 120,002,388
DROP Disbursements ..... 18,715,115
Refunds of Contributions ..... 13,630,465
Funds Transferred to another System ..... 3,240,050
Administrative Expenses ..... 1,256,429
TOTAL Expenses ..... \$ 156,844,447
Net Market Value Income for Fiscal 2013 (Income - Expenses) ..... \$ 459,496,308
Unadjusted Fund Balance as of December 31, 2013
(Fund Balance Previous Year + Net Income) ..... \$ 2,908,025,485
Adjustment for Actuarial Smoothing. ..... \$ (147,877,082)
Actuarial Value of Assets: (December 31, 2013) ..... \$ 2,760,148,403

## EXHIBIT VII <br> PLAN A: FUND BALANCES

## PRESENT ASSETS OF THE SYSTEM CREDITABLE TO:


#### Abstract

Annuity Savings Fund $\qquad$ \$ 390,776,481


Annuity Reserve Fund $\qquad$
Pension Accumulation Fund $\qquad$Deferred Retirement Option Plan Account
$\qquad$Funding Deposit Account
$\qquad$4,918,053
NET MARKET VALUE OF ASSETS ..... \$
ADJUSTMENT FOR ACTUARIAL SMOOTHING ..... \$ACTUARIAL VALUE OF ASSETS\$EXHIBIT VIII - Schedule APLAN A: PENSION BENEFIT OBLIGATION
Present Value of Credited Projected Benefits Payable to Current Employees\$$1,652,437,533$
Present Value of Benefits Payable to Terminated Employees
$\qquad$76,122,564
Present Value of Benefits Payable to Current Retirees and Beneficiaries

$\qquad$\$
NET ACTUARIAL VALUE OF ASSETS ..... \$
2,909,489,485

$$
2,760,148,403
$$

Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation
$\qquad$

$$
94.87 \%
$$

## EXHIBIT VIII - Schedule B PLAN A: ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees \$ 1,727,091,691

Accrued Liability for Terminated Employees $\qquad$ 76,122,564

Accrued Liability for Current Retirees and Beneficiaries $\qquad$ $1,180,929,388$
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY ..... \$2,984,143,643
NET ACTUARIAL VALUE OF ASSETS ..... \$

Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability

2,760,148,403
92.49\%

## EXHIBIT IX <br> CENSUS DATA - PLAN A

|  | Active | Terminated with Funds on Deposit | DROP | Retired | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number of members as of December 31, 2012 | 13,688 | 7,356 | 682 | 5,991 | 27,717 |
| Additions to Census <br> Initial membership <br> Omitted in error last year <br> Death of another member <br> Adjustment for multiple records | 1,541 | 64 | (1) | 2 71 | 1,605 2 70 |
| Change in Status during Year <br> Actives terminating service <br> Actives who retired <br> Actives entering DROP <br> Term. members rehired <br> Term. members who retire <br> Retirees who are rehired <br> Refunded who are rehired <br> DROP participants retiring <br> DROP returned to work <br> Omitted in error last year | (719) <br> (255) <br> (287) <br> 51 <br> 2 35 <br> 100 | 719 <br> (51) <br> (39) <br> 7 | 287 <br> (142) <br> (100) | $255$ <br> 39 <br> (2) <br> 142 | 42 |
| Eliminated from Census <br> Refund of contributions <br> Deaths <br> Included in error last year Adjustment for multiple records | (988) <br> (29) <br> 1 | (258) <br> (10) <br> 4 |  | (252) <br> (4) | $\begin{array}{r} (1,246) \\ (291) \end{array}$ |
| Number of members as of December 31, 2013 | 13,140 | 7,792 | 726 | 6,242 | 27,900 |

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G. S. Curran \& Company, Ltd.

PLAN A - ACTIVES CENSUS BY AGE:

| Age | Number Male | Number <br> Female | Total <br> Number | Average Salary | $\begin{gathered} \text { Total } \\ \text { Salary } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 16-20 | 37 | 26 | 63 | 21,085 | 1,328,355 |
| 21-25 | 346 | 254 | 600 | 25,903 | 15,541,874 |
| 26-30 | 501 | 616 | 1,117 | 31,810 | 35,532,230 |
| 31-35 | 599 | 703 | 1,302 | 36,118 | 47,025,655 |
| 36-40 | 555 | 652 | 1,207 | 39,935 | 48,201,931 |
| 41-45 | 759 | 833 | 1,592 | 40,841 | 65,018,122 |
| 46-50 | 994 | 969 | 1,963 | 41,802 | 82,057,295 |
| 51-55 | 1,098 | 1,086 | 2,184 | 41,861 | 91,423,395 |
| 56-60 | 977 | 999 | 1,976 | 41,727 | 82,451,740 |
| 61-65 | 654 | 583 | 1,237 | 41,151 | 50,903,637 |
| 66-70 | 240 | 181 | 421 | 40,365 | 16,993,591 |
| 71-75 | 73 | 61 | 134 | 38,783 | 5,196,917 |
| 76-80 | 37 | 22 | 59 | 28,349 | 1,672,597 |
| 81-85 | 7 | 3 | 10 | 31,740 | 317,403 |
| 86-90 | 1 | 0 | 1 | 4,800 | 4,800 |
| TOTAL | 6,878 | 6,988 | 13,866 | 39,209 | 543,669,542 |

THE ACTIVE CENSUS INCLUDES 7,156 ACTIVES WITH VESTED BENEFITS, INCLUDING 726 DROP PARTICIPANTS AND 309 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

| Age | $\begin{gathered} \text { Number } \\ \text { Male } \end{gathered}$ | Number <br> Female | Total <br> Number | Average Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26-30 | 1 | 0 | 1 | 5,988 | 5,988 |
| 31-35 | 6 | 12 | 18 | 11,738 | 211,291 |
| 36-40 | 14 | 35 | 49 | 12,305 | 602,952 |
| 41-45 | 28 | 64 | 92 | 16,350 | 1,504,181 |
| 46-50 | 59 | 65 | 124 | 17,889 | 2,218,275 |
| 51-55 | 54 | 100 | 154 | 20,596 | 3,171,826 |
| 56-60 | 76 | 92 | 168 | 15,362 | 2,580,889 |
| 61-65 | 27 | 25 | 52 | 11,314 | 588,308 |
| 66-70 | 9 | 3 | 12 | 5,648 | 67,776 |
| 71-75 | 4 | 3 | 7 | 7,103 | 49,721 |
| 76-80 | 1 | 1 | 2 | 4,724 | 9,447 |
| 81-85 | 1 | 1 | 2 | 567 | 1,134 |
| 86-90 | 1 | 0 | 1 | 1,437 | 1,437 |
| 91-99 | 0 | 1 | 1 | 666 | 666 |
| TOTAL | 281 | 402 | 683 | 16,126 | 11,013,891 |

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

| Contributions Ranging |  | Total |  |
| ---: | ---: | ---: | :---: |
| From | To | Number | Contributions |
| 0 | - | 99 | 4,385 |

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PLAN A - REGULAR RETIREES:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | ---: |
| $46-50$ |  |  | 7 | 12 | 47,012 |

PLAN A - DISABILITY RETIREES:

| Age | Number Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31-35 | 0 | 1 | 1 | 8,002 | 8,002 |
| 36-40 | 1 | 1 | 2 | 13,360 | 26,719 |
| 41-45 | 8 | 8 | 16 | 15,499 | 247,982 |
| 46-50 | 20 | 13 | 33 | 14,745 | 486,594 |
| 51-55 | 41 | 21 | 62 | 18,192 | 1,127,900 |
| 56-60 | 97 | 49 | 146 | 16,387 | 2,392,458 |
| 61-65 | 85 | 45 | 130 | 12,843 | 1,669,574 |
| 66-70 | 55 | 29 | 84 | 12,359 | 1,038,129 |
| 71-75 | 20 | 12 | 32 | 8,271 | 264,656 |
| 76-80 | 5 | 3 | 8 | 6,065 | 48,517 |
| 81-85 | 4 | 0 | 4 | 5,140 | 20,560 |
| 86-90 | 1 | 0 | 1 | 9,090 | 9,090 |
| TOTAL | 337 | 182 | 519 | 14,143 | 7,340,181 |

PLAN A - SURVIVORS:

| Age | Number Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0-25 | 11 | 9 | 20 | 13,121 | 262,424 |
| 26-30 | 1 | 0 | 1 | 6,958 | 6,958 |
| 31-35 | 1 | 0 | 1 | 8,689 | 8,689 |
| 36-40 | 2 | 1 | 3 | 10,188 | 30,564 |
| 41-45 | 1 | 2 | 3 | 13,090 | 39,271 |
| 46-50 | 2 | 19 | 21 | 16,844 | 353,733 |
| 51-55 | 7 | 21 | 28 | 14,580 | 408,247 |
| 56-60 | 7 | 22 | 29 | 14,151 | 410,373 |
| 61-65 | 10 | 75 | 85 | 13,408 | 1,139,707 |
| 66-70 | 18 | 108 | 126 | 11,221 | 1,413,888 |
| 71-75 | 18 | 144 | 162 | 10,821 | 1,753,012 |
| 76-80 | 9 | 117 | 126 | 10,067 | 1,268,436 |
| 81-85 | 5 | 133 | 138 | 7,887 | 1,088,447 |
| 86-90 | 1 | 70 | 71 | 7,398 | 525,238 |
| 91-99 | 2 | 54 | 56 | 5,956 | 333,518 |
| TOTAL | 95 | 775 | 870 | 10,394 | 9,042,505 |

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## G. S. Curran \& Company, Ltd.

PLAN A - ACTIVE MEMBERS:


| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30\&Over | Average Salary |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-20 | 20,944 | 22,045 | 19,903 |  |  |  |  |  |  |  |  | 21,085 |
| 21-25 | 24,085 | 27,646 | 26,828 | 25,761 | 28,071 | 29,003 |  |  |  |  |  | 25,903 |
| 26-30 | 26,994 | 29,685 | 32,605 | 33,480 | 32,428 | 36,029 | 38,592 |  |  |  |  | 31,810 |
| 31-35 | 32,765 | 29,189 | 32,546 | 35,818 | 35,498 | 38,811 | 40,801 | 40,419 |  |  |  | 36,118 |
| 36-40 | 29,859 | 36,860 | 39,398 | 35,550 | 36,792 | 40,990 | 46,294 | 44,495 | 44,945 |  |  | 39,935 |
| 41-45 | 29,391 | 32,921 | 32,499 | 35,406 | 37,108 | 41,076 | 44,996 | 51,065 | 49,039 | 45,979 |  | 40,841 |
| 46-50 | 31,768 | 31,891 | 35,217 | 37,077 | 38,059 | 37,239 | 42,160 | 46,658 | 51,171 | 56,878 | 63,957 | 41,802 |
| 51-55 | 31,487 | 30,648 | 33,434 | 39,425 | 35,422 | 35,709 | 42,019 | 42,831 | 48,743 | 57,955 | 58,308 | 41,861 |
| 56-60 | 31,208 | 32,998 | 34,274 | 39,795 | 34,661 | 35,560 | 41,518 | 43,033 | 49,084 | 52,170 | 55,701 | 41,727 |
| 61-65 | 35,057 | 34,987 | 39,034 | 33,274 | 39,109 | 36,050 | 38,856 | 40,129 | 44,404 | 53,614 | 54,398 | 41,151 |
| 66-70 | 25,631 | 35,603 | 29,660 | 39,594 | 19,578 | 33,583 | 39,831 | 40,168 | 46,187 | 43,798 | 61,688 | 40,365 |
| 71 \& Over | 32,532 | 56,718 | 25,064 | 18,170 | 27,704 | 36,774 | 34,605 | 33,734 | 32,454 | 33,651 | 40,212 | 35,254 |
| Average | 28,966 | 31,322 | 33,333 | 35,647 | 35,291 | 37,525 | 42,226 | 44,188 | 47,962 | 53,554 | 56,255 | 39,209 |

plan a - terminated members due a deferred retirement benefit:

| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 3080ver | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-25 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 26-30 |  |  |  |  |  |  |  |  |  |  | 1 | 1 |
| 31-35 |  |  |  |  |  |  |  |  |  | 6 | 12 | 18 |
| 36-40 |  |  |  |  |  |  |  |  | 25 | 24 |  | 49 |
| 41-45 |  |  |  |  |  | 1 |  | 57 | 34 |  |  | 92 |
| 46-50 |  |  |  |  |  |  | 92 | 32 |  |  |  | 124 |
| 51-55 | 2 |  |  |  |  | 116 | 35 | 1 |  |  |  | 154 |
| 56-60 | 34 | 26 | 24 | 25 | 24 | 34 |  |  |  | 1 |  | 168 |
| 61-65 | 28 | 10 | 7 | 2 | 4 | 1 |  |  |  |  |  | 52 |
| 66-70 | 12 |  |  |  |  |  |  |  |  |  |  | 12 |
| 71-75 | 7 |  |  |  |  |  |  |  |  |  |  | 7 |
| 76-80 | 2 |  |  |  |  |  |  |  |  |  |  | 2 |
| 81-85 | 2 |  |  |  |  |  |  |  |  |  |  | 2 |
| 86-90 | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
| 91 \& Over | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
| Totals | 89 | 36 | 31 | 27 | 28 | 152 | 127 | 90 | 59 | 31 | 13 | 683 |


| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 308Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-25 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 26-30 |  |  |  |  |  |  |  |  |  |  | 5,988 | 5,988 |
| 31-35 |  |  |  |  |  |  |  |  |  | 14,192 | 10,512 | 11,738 |
| 36-40 |  |  |  |  |  |  |  |  | 14,996 | 9,503 |  | 12,305 |
| 41-45 |  |  |  |  |  | 9,096 |  | 19,834 | 10,723 |  |  | 16,350 |
| 46-50 |  |  |  |  |  |  | 20,182 | 11,297 |  |  |  | 17,889 |
| 51-55 | 44,523 |  |  |  |  | 22,964 | 11,605 | 12,768 |  |  |  | 20,596 |
| 56-60 | 17,382 | 19,558 | 16,447 | 15,582 | 17,351 | 7,996 |  |  |  | 8,832 |  | 15,362 |
| 61-65 | 10,876 | 9,175 | 15,103 | 14,249 | 10,158 | 17,175 |  |  |  |  |  | 11,314 |
| 66-70 | 5,648 |  |  |  |  |  |  |  |  |  |  | 5,648 |
| 71-75 | 7,103 |  |  |  |  |  |  |  |  |  |  | 7,103 |
| 76-80 | 4,723 |  |  |  |  |  |  |  |  |  |  | 4,723 |
| 81-85 | 567 |  |  |  |  |  |  |  |  |  |  | 567 |
| 86-90 | 1,437 |  |  |  |  |  |  |  |  |  |  | 1,437 |
| 91 \& Over | 666 |  |  |  |  |  |  |  |  |  |  | 666 |
| Average | 12,525 | 16,674 | 16,144 | 15,483 | 16,324 | 19,487 | 17,818 | 16,720 | 12,533 | 10,389 | 10,164 | 16,126 |

PLAN A - DISABILITY RETIREES:

| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | Completed Years Since Retirement |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30\&Over | Total |
| 0-30 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 31-35 |  |  | 1 |  |  |  |  |  |  |  |  | 1 |
| 36-40 | 1 | 1 |  |  |  |  |  |  |  |  |  | 2 |
| 41-45 | 2 | 1 | 1 | 1 |  | 8 | 3 |  |  |  |  | 16 |
| 46-50 |  | 4 | 5 | 4 | 3 | 5 | 8 | 1 |  |  |  | 33 |
| 51-55 | 5 | 7 | 4 | 5 | 2 | 19 | 8 | 9 | 3 |  |  | 62 |
| 56-60 | 12 | 12 | 16 | 5 | 10 | 38 | 24 | 14 | 11 | 4 |  | 146 |
| 61-65 | 3 |  | 8 | 5 | 4 | 36 | 31 | 22 | 15 | 4 | 2 | 130 |
| 66-70 |  |  | 2 | 1 | 2 | 19 | 28 | 17 | 14 | 1 |  | 84 |
| 71-75 |  |  |  |  |  | 5 | 4 | 10 | 8 | 4 | 1 | 32 |
| 76-80 |  |  |  |  |  |  | 1 | 4 | 1 | 2 |  | 8 |
| 81-85 |  |  |  |  |  |  |  | 2 |  | 1 | 1 | 4 |
| 86-90 |  |  |  |  |  |  |  |  | 1 |  |  | 1 |
| 91 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Totals | 26 | 25 | 37 | 21 | 21 | 130 | 107 | 79 | 53 | 16 | 4 | 519 |


| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | Completed Years Since Retirement |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 |
| 0-30 |  |  |  |  |  |  |  |  |
| 31-35 |  |  | 8,002 |  |  |  |  |  |
| 36-40 | 14,792 | 11,927 |  |  |  |  |  |  |
| 41-45 | 36,971 | 11,544 | 10,333 | 5,587 |  | 15,023 | 8,798 |  |
| 46-50 | 19,161 | 14,626 | 17,986 | 18,753 | 15,132 | 14,085 | 10,330 | 7,201 |
| 51-55 | 21,669 | 24,492 | 28,611 | 19,295 | 21,995 | 19,155 | 16,686 | 8,576 |
| 56-60 | 17,919 | 19,686 | 23,370 | 14,861 | 19,008 | 17,741 | 15,429 | 10,257 |
| 61-65 | 8,770 |  | 9,821 | 12,275 | 13,630 | 13,273 | 16,327 | 11,696 |
| 66-70 |  |  | 5,337 | 3,798 | 4,345 | 13,869 | 11,330 | 14,858 |
| 71-75 |  |  |  |  |  | 6,062 | 4,162 | 8,562 |
| 76-80 |  |  |  |  |  |  | 4,335 | 5,298 |
| 81-85 |  |  |  |  |  |  |  | 2,792 |
| 86-90 |  |  |  |  |  |  |  |  |
| 91 \& Over |  |  |  |  |  |  |  |  |
| Average | 19,073 | 19,586 | 18,537 | 15,074 | 16,318 | 15,388 | 13,619 | 10,763 |

PLAN A - SURVIVING BENEFICIARIES OF FORMER MEMBERS:
Completed Years Since Retirement

| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30\&Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-20 | 4 | 2 | 3 | 1 | 1 | 4 | 1 | 2 |  |  |  | 18 |
| 21-25 |  | 1 | 1 |  |  |  |  |  |  |  |  | 2 |
| 26-30 |  |  |  |  |  |  | 1 |  |  |  |  | 1 |
| 31-35 |  |  |  |  |  |  |  |  | 1 |  |  | 1 |
| 36-40 |  |  |  |  | 1 | 1 |  |  | 1 |  |  | 3 |
| 41-45 |  |  |  |  | 1 | 1 |  | 1 |  |  |  | 3 |
| 46-50 | 2 | 1 |  | 1 | 2 | 6 | 7 | 2 |  |  |  | 21 |
| 51-55 |  | 2 | 2 | 2 | 1 | 10 | 5 | 4 | 1 |  | 1 | 28 |
| 56-60 | 2 |  | 4 |  | 3 | 8 | 4 | 6 | 2 |  |  | 29 |
| 61-65 | 1 | 6 | 6 | 3 | 6 | 34 | 16 | 8 | 4 | 1 |  | 85 |
| 66-70 | 5 | 2 | 1 | 1 | 10 | 47 | 30 | 23 | 3 | 1 | 3 | 126 |
| 71-75 |  | 3 | 3 | 1 | 8 | 32 | 49 | 38 | 20 | 6 | 2 | 162 |
| 76-80 |  |  | 2 | 1 | 2 | 9 | 24 | 32 | 31 | 20 | 5 | 126 |
| 81-85 |  |  |  |  | 2 | 7 | 7 | 26 | 46 | 36 | 14 | 138 |
| 86-90 |  |  |  | 1 |  | 1 |  | 4 | 22 | 27 | 16 | 71 |
| 91 \& Over |  |  |  |  |  |  |  | 5 | 5 | 18 | 28 | 56 |
| Totals | 14 | 17 | 22 | 11 | 37 | 160 | 144 | 151 | 136 | 109 | 69 | 870 |

plan a - average annual benefits payable to survivors of former members:

| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30\&Over | Average <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-20 | 12,826 | 11,193 | 28,267 | 25,355 | 13,241 | 8,433 | 6,205 | 5,367 |  |  |  | 13,765 |
| 21-25 |  | 7,395 | 7,266 |  |  |  |  |  |  |  |  | 7,331 |
| 26-30 |  |  |  |  |  |  | 6,958 |  |  |  |  | 6,958 |
| 31-35 |  |  |  |  |  |  |  |  | 8,689 |  |  | 8,689 |
| 36-40 |  |  |  |  | 12,181 | 4,365 |  |  | 14,018 |  |  | 10,188 |
| 41-45 |  |  |  |  | 16,866 | 9,892 |  | 12,513 |  |  |  | 13,091 |
| 46-50 | 26,217 | 14,734 |  | 7,352 | 29,841 | 17,407 | 13,059 | 11,837 |  |  |  | 16,844 |
| 51-55 |  | 17,954 | 27,389 | 14,340 | 31,713 | 16,319 | 13,642 | 4,944 | 4,683 |  | 1,303 | 14,580 |
| 56-60 | 14,788 |  | 23,133 |  | 14,813 | 13,002 | 21,603 | 7,133 | 5,298 |  |  | 14,151 |
| 61-65 | 14,767 | 10,262 | 13,893 | 43,722 | 17,362 | 12,696 | 14,459 | 7,272 | 5,503 | 1,469 |  | 13,408 |
| 66-70 | 9,754 | 8,403 | 23,302 | 15,696 | 10,465 | 12,286 | 12,081 | 9,733 | 4,178 | 7,276 | 7,043 | 11,221 |
| 71-75 |  | 10,979 | 4,692 | 3,283 | 7,935 | 11,669 | 10,012 | 11,194 | 12,532 | 14,492 | 6,135 | 10,821 |
| 76-80 |  |  | 18,862 | 14,570 | 18,802 | 7,046 | 10,061 | 9,073 | 11,360 | 10,593 | 3,854 | 10,067 |
| 81-85 |  |  |  |  | 2,257 | 7,638 | 7,684 | 7,331 | 7,717 | 9,033 | 7,564 | 7,887 |
| 86-90 |  |  |  | 3,136 |  | 5,302 |  | 13,727 | 8,430 | 7,554 | 4,529 | 7,398 |
| 91 \& Over |  |  |  |  |  |  |  | 10,120 | 11,419 | 5,908 | 4,267 | 5,956 |
| Average | 14,061 | 11,279 | 18,083 | 20,840 | 13,312 | 12,027 | 11,381 | 9,294 | 9,359 | 8,652 | 5,099 | 10,394 |

## EXHIBIT X PLAN A: YEAR-TO-YEAR COMPARISON

|  |  | Fiscal 2013 |  | Fiscal 2012 |  | Fiscal 2011 |  | Fiscal 2010 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of Active Members |  | 13,866 |  | 14,370 |  | 14,646 |  | 14,791 |
| Number of Retirees \& Survivors |  | 6,242 |  | 5,991 |  | 5,718 |  | 5,531 |
| Number of Terminated Due Deferred Benefits |  | 683 |  | 561 |  | 561 |  | 556 |
| Number Terminated Due Refunds |  | 7,109 |  | 6,795 |  | 6,795 |  | 6,762 |
| Active Lives Payroll | \$ | 543,669,542 | \$ | 558,327,346 | \$ | 552,543,155 | \$ | 546,737,427 |
| Retiree Benefits in Payment | \$ | 124,299,785 | \$ | 114,515,106 | \$ | 104,683,495 | \$ | 97,650,642 |
| Market Value of Assets | \$ | 3,043,479,814 | \$ | 2,583,983,506 | \$ | 2,230,462,425 | \$ | 2,225,041,407 |
| Actuarial Value of Assets | \$ | 2,760,148,403 | \$ | 2,448,529,177 | \$ | 2,344,047,017 | \$ | 2,259,207,052 |
| Actuarial Accrued Liability (EAN - GASB 50) | \$ | 2,984,143,643 | \$ | 2,823,038,820 | \$ | 2,682,634,009 | \$ | 2,553,982,211 |
| Ratio of AVA to GASB-50 Accrued Liability |  | 92.49\% |  | 86.73\% |  | 87.38\% |  | 88.46\% |
| Present Value of Future Employer Normal Cost | \$ | 651,806,943 | \$ | 773,908,389 | \$ | 724,810,561 | \$ | 669,371,250 |
| Present Value of Future Employee Contrib. | \$ | 370,352,485 | \$ | 378,465,400 | \$ | 373,626,178 | \$ | 370,489,102 |
| Funding Deposit Account Credit Balance | \$ | 4,918,053 | \$ | 4,574,933 | \$ | 29,274,204 | \$ | 27,231,818 |
| Present Value of Future Benefits | \$ | 3,777,389,778 | \$ | 3,596,328,033 | \$ | 3,450,112,888 | \$ | 3,317,592,043 |

Fiscal 2014
Employee Contribution Rate

Estimated Tax Contribution as \% of Payroll

Actuarially Required Net Direct Employer Contribution Rate

Actual Employer Contribution Rate
$9.50 \%$
$1.32 \%$
$13.07 \%$
$16.00 \%$
$16.75 \%$
15.56\%
$9.50 \%$
$1.16 \%$
1.09\%
16.72\%
$15.75 \%$
15.58\%
$15.75 \%$

|  | Fiscal 2009 |  | Fiscal 2008 |  | Fiscal 2007 |  | Fiscal 2006 |  | Fiscal 2005 |  | Fiscal 2004 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 14,795 |  | 14,373 |  | 13,650 |  | 13,244 |  | 13,470 |  | 13,868 |
|  | 5,413 |  | 5,235 |  | 5,083 |  | 4,978 |  | 4,845 |  | 4,739 |
|  | 562 |  | 545 |  | 497 |  | 522 |  | 448 |  | 374 |
|  | 6,611 |  | 6,464 |  | 6,122 |  | 6,140 |  | 5,723 |  | 5,641 |
| \$ | 536,408,372 | \$ | 511,891,487 | \$ | 454,741,830 | \$ | 420,104,038 | \$ | 429,459,653 | \$ | 407,022,806 |
| \$ | 90,207,961 | \$ | 84,492,940 | \$ | 77,403,146 | \$ | 73,102,892 | \$ | 66,724,243 | \$ | 62,543,026 |
| \$ | 1,904,114,041 | \$ | 1,565,934,957 | \$ | 2,087,385,378 | \$ | 1,921,293,624 | \$ | 1,695,523,143 | \$ | 1,577,051,547 |
| \$ | 2,135,230,590 | \$ | 1,943,569,363 | \$ | 2,027,214,660 | \$ | 1,718,754,962 | \$ | 1,535,416,950 | \$ | 1,364,795,086 |
| \$ | 2,358,101,301 | \$ | 2,248,596,038 | \$ | 2,063,501,317 | \$ | 1,828,082,350 | \$ | 1,781,846,647 | \$ | 1,606,710,651 |
|  | 90.55\% |  | 86.43\% |  | 98.24\% |  | 94.02\% |  | 86.17\% |  | 84.94\% |
| \$ | 552,376,261 | \$ | 613,635,252 | \$ | 288,883,382 | \$ | 280,817,883 | \$ | 422,308,841 | \$ | 351,288,808 |
| \$ | 355,947,027 | \$ | 339,052,728 | \$ | 302,732,846 | \$ | 279,197,353 | \$ | 291,917,848 | \$ | 269,026,244 |
| \$ | 25,331,924 | \$ | 23,564,580 | \$ | 0 | \$ | 0 | \$ | 0 | \$ | 0 |
| \$ | 3,071,774,342 | \$ | 2,933,074,556 | \$ | 2,685,159,246 | \$ | 2,368,532,719 | \$ | 2,342,554,492 | \$ | 2,080,559,290 |
| ************************************************************************************************** |  |  |  |  |  |  |  |  |  |  |  |
|  | Fiscal 2010 |  | Fiscal 2009 |  | Fiscal 2008 |  | Fiscal 2007 |  | Fiscal 2006 |  | Fiscal 2005 |
|  | 9.50\% |  | 9.50\% |  | 9.50\% |  | 9.50\% |  | 9.50\% |  | 9.50\% |
|  | 1.13\% |  | 1.15\% |  | 1.11\% |  | 1.05\% |  | 0.94\% |  | 1.02\% |
|  | 13.46\% |  | 15.40\% |  | 8.98\% |  | 9.58\% |  | 13.12\% |  | 12.39\% |
|  | 15.75\% |  | 12.25\% |  | 12.75\% |  | 13.25\% |  | 12.75\% |  | 12.75\% |

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G. S. Curran \& Company, Ltd.
EXHIBIT XIPLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits $\qquad$2. Funding Deposit Account Credit Balance.
$\qquad$3. Actuarial Value of Assets
s...4. Present Value of Future Employee Contributions.5. Present Value of Future Employer Normal Costs (1+2-3-4)..
$\qquad$6. Present Value of Future Salaries
$\qquad$8. Projected Fiscal 2014 Salary for Current Membership
$\qquad$\$\$ 694,433,400
2. Employer Normal Cost Accrual Rate $(5 \div 6)$.

$\qquad$
$\qquad$9. Employer Normal Cost as of January 1, 2014 (7x 8).

$\qquad$$\ddots$
11. Estimated Administrative Cost for Fiscal 2014

$\qquad$ ..... \$
$10.278117 \%$
12. TOTAL Administrative and Interest Adjusted Actuarial Costs $(10+11)$. ..... \$$\$ 8,507,432$

$\qquad$
10. Normal Cost Interest Adjusted for Midyear Payment.

$\qquad$ ..... \$ ..... \$
8,810,431
212,5819,023,012
13. Projected Ad Valorem Tax Contributions for Fiscal 2014 ..... \$
14. Projected Revenue Sharing Funds for Fiscal 2014 ..... \$
15. Employers' Net Direct Actuarially Required Contribution for Fiscal 2014 (12-13-14) ..... \$7,906,534
16. Projected Payroll for Fiscal 2014 ..... \$
91,920,820
17. Employers' Net Direct Actuarially Required Contribution as a \% of Projected Payroll for $2014(15 \div 16)$ ..... 8.60\%
18. Actual Employer Contribution Rate for Fiscal 2014 ..... $9.25 \%$
19. Contribution Shortfall (Excess) as a Percentage of Payroll (17-18)

$\qquad$ ..... (0.65\%)
20. Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess) ..... (0.08\%)
21. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2015 (17, Rounded to Nearest 0.25\%). ..... 8.50\%

## EXHIBIT XII PLAN B: PRESENT VALUE OF FUTURE BENEFITS

## PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits ..... \$205,389,153
Survivor Benefits ..... 5,546,455
Disability Benefits ..... 6,319,267
Vested Termination Benefits ..... 12,927,205
Refunds of Contributions ..... 3,164,358
TOTAL Present Value of Future Benefits for Active Members ..... \$
233,346,438
PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:
Terminated Vested Members Due Benefits at Retirement ..... \$ 7,286,627
Terminated Members with Reciprocals Due Benefits at Retirement. ..... 0
Terminated Members Due a Refund ..... 730,520
TOTAL Present Value of Future Benefits for Terminated Members ..... \$ ..... 8,017,147
PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:
Regular Retirees by Option Selected:
Maximum. ..... \$ 24,465,904
Option 1 ..... 122,834
Option 2 ..... 21,335,034
Option 3 ..... 3,808,403
Option 4 ..... 714,166
TOTAL Regular Retirees ..... \$ 50,446,341
TOTAL Disability Retirees ..... \$ 6,203,598
TOTAL Survivors \& Widows ..... \$ 6,461,580
Reserve for Accrued Retiree DROP Account Balances ..... \$ ..... 31,769
TOTAL Present Value of Future Benefits for Retirees \& Survivors ..... \$63,143,288
TOTAL Present Value of Future Benefits ..... \$ ..... 304,506,873

## EXHIBIT XIII - SCHEDULE A PLAN B - MARKET VALUE OF ASSETS

## CURRENT ASSETS:

Cash in Banks ..... \$ ..... 486,761
Contributions Receivable ..... 1,533,252
Ad Valorem Taxes Receivable \& Revenue Sharing ..... 1,028,189
Accrued Interest and Dividends ..... 40,391
Investments Receivable ..... 147,925
Due from Plan A ..... 878,957
TOTAL CURRENT ASSETS ..... \$ ..... 4,115,475
Property Plant \& Equipment ..... \$
103,458
Deposits ..... \$
INVESTMENTS:
Common Trust Funds ..... \$ 99,425,648
Foreign Equity Fund ..... 46,211,814
Common Stocks ..... 45,034,058
Foreign Fixed Income ..... 21,578,270
Hedge Funds ..... 6,787,252
Bond Funds ..... 5,795,065
Government Agency Bonds ..... 2,480,424
Cash Equivalents ..... 7,368,499
Corporate Bonds ..... 188,439
Private Equity Funds ..... 237,568
TOTAL INVESTMENTS ..... \$
TOTAL ASSETS ..... \$
239,325,972
CURRENT LIABILITIES:
Retirements Payable ..... \$ ..... 598,707
Accounts Payable ..... 136,669
Investments Payable ..... 107,683
Refunds Payable ..... 13,183
Due to Other Plans ..... 1,057,564
TOTAL CURRENT LIABILITIES ..... \$
1,913,806
MARKET VALUE OF ASSETS

## EXHIBIT XIII - SCHEDULE B PLAN B - ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of invested income for current and previous 4 years:
Fiscal year 2013 ..... \$ 20,198,394
Fiscal year 2012 ..... 13,957,016
Fiscal year 2011 ..... (13,385,425)Fiscal year 201010,833,284Fiscal year 200914,683,472
Total for five years ..... \$ ..... 46,286,741
Deferral of excess (shortfall) of invested income:
Fiscal year 2013 (80\%) ..... \$ 16,158,715
Fiscal year 2012 (60\%) ..... 8,374,210
Fiscal year 2011 (40\%) ..... $(5,354,170)$
Fiscal year 2010 (20\%) ..... 2,166,657
Fiscal year 2009 ( 0\%)0
Total deferred for year ..... \$ 21,345,412
Market value of plan net assets, end of year ..... \$ 237,412,166
Preliminary actuarial value of plan assets, end of year ..... \$ 216,066,754
Actuarial value of assets corridor
$85 \%$ of market value, end of year ..... \$ 201,800,341
$115 \%$ of market value, end of year ..... \$ 273,023,991
Final actuarial value of plan net assets, end of year ..... \$ 216,066,754

## EXHIBIT XIV <br> PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund ..... \$
Employer Normal Contributions to the Pension Accumulation Fund ..... 71,374,679
Funding Deposit Account Credit Balance ..... $(2,126,959)$
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS ..... \$
88,440,119
EXHIBIT XV
PLAN B: RECONCILIATION OF CONTRIBUTIONS
Employer Normal Cost for Prior Year. ..... \$8,913,787
Interest on Normal Cost ..... 668,534
Administrative Expenses ..... 190,424
Interest on Expenses ..... 7,013
TOTAL Interest Adjusted Actuarially Required Contributions ..... \$ ..... 9,779,758
Direct Employer Contributions ..... \$ 8,821,822
Interest on Employer Contributions. ..... 324,838
Ad Valorem Taxes and Revenue Sharing Funds ..... 1,044,687
Interest on Ad Valorem Taxes and Revenue Sharing Funds ..... 38,468
TOTAL Interest Adjusted Employer Contributions ..... \$
$10,229,815$
CONTRIBUTION SURPLUS Added to the Funding Deposit Account. ..... \$

## EXHIBIT XVI PLAN B: ANALYSIS OF INCREASE IN ASSETS

Actuarial Value of Assets (December 31, 2012)\$INCOME:
Employer Contributions ..... \$ 8,821,822
Member Contributions ..... 2,563,980
Ad Valorem Taxes ..... 1,023,358
Revenue Sharing ..... 21,329
Purchases and Transfers of Service Credit ..... 61,454
Irregular Contributions ..... 885,065
Total Contributions ..... \$
Net Appreciation in Fair Value of Investments ..... \$33,670,770
Interest \& Dividends ..... 2,375,331
Class Action Settlement ..... 1,778
Investment Expense ..... $(896,901)$
Net Investment Income ..... \$ ..... 35,150,978
TOTAL Income ..... \$ ..... 48,527,986
EXPENSES:
Retirement Benefits ..... \$ 6,593,734
DROP Disbursements ..... 354,839
Refunds of Contributions ..... 488,440
Administrative Expenses ..... 180,896
Funds Transferred to another System ..... 65,528
Other Postemployment Benefits ..... 4,865
Depreciation. ..... 4,663
TOTAL Expenses ..... \$ ..... 7,692,965
Net Market Value Income for Fiscal 2013 (Income - Expenses) ..... \$ ..... 40,835,021
Unadjusted Fund Balance as of December 31, 2013 (Fund Balance Previous Year + Net Income) ..... \$ ..... 227,007,800
Adjustment for Actuarial Smoothing. ..... \$$(10,941,046)$
Actuarial Value of Assets (December 31, 2013) ..... \$ ..... 216,066,754

## EXHIBIT XVII <br> PLAN B: FUND BALANCES

## PRESENT ASSETS OF THE SYSTEM CREDITABLE TO:

Annuity Savings Fund ..... \$ ..... 19,887,062
Annuity Reserve Fund ..... 63,111,519
Pension Accumulation Account ..... 149,185,220
Deferred Retirement Option Plan Account ..... 3,101,406
Funding Deposit Account ..... 2,126,959
NET MARKET VALUE OF ASSETS ..... \$ ..... 237,412,166
ADJUSTMENT FOR ACTUARIAL SMOOTHING ..... $(21,345,412)$
ACTUARIAL VALUE OF ASSETS ..... \$216,066,754
EXHIBIT XVIII - Schedule A PLAN B: PENSION BENEFIT OBLIGATION
Present Value of Credited Projected Benefits Payable to Current Employees. ..... \$ ..... 144,909,002
Present Value of Benefits Payable to Terminated Employees ..... 8,017,147
Present Value of Benefits Payable to Current Retirees and Beneficiaries ..... 63,143,288
TOTAL PENSION BENEFIT OBLIGATION ..... \$ ..... 216,069,437
NET ACTUARIAL VALUE OF ASSETS ..... \$ ..... 216,066,754
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation. ..... 100.00\%
EXHIBIT XVIII - Schedule B ENTRY AGE NORMAL ACCRUED LIABILITIES
Accrued Liability for Active Employees

$\qquad$ ..... \$ ..... 162,160,789
Accrued Liability for Terminated Employees ..... 8,017,147
Accrued Liability for Current Retirees and Beneficiaries ..... 63,143,288
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY ..... \$ ..... 233,321,224
NET ACTUARIAL VALUE OF ASSETS. ..... \$ ..... 216,066,754Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability92.60\%

## G. S. Curran \& Company, Ltd.

## EXHIBIT XIX CENSUS DATA - PLAN B

\begin{tabular}{|c|c|c|c|c|c|}
\hline \& Active \& Terminated with Funds on Deposit \& DROP \& Retired \& Total \\
\hline Number of members as of December 31, 2012 \& 2,254 \& 1,636 \& 44 \& 657 \& 4,591 \\
\hline \begin{tabular}{l}
Additions to Census \\
Initial membership \\
Omitted in error last year \\
Death of Another Member
\end{tabular} \& 268 \& 2 \& \& 8 \& 270
8 \\
\hline \begin{tabular}{l}
Change in Status during Year \\
Actives terminating service \\
Actives who retired \\
Actives entering DROP \\
Term. members rehired \\
Term. members who retire \\
Retirees who are rehired \\
Refunded who are rehired \\
DROP participants retiring \\
DROP returned to work \\
Omitted in error last year
\end{tabular} \& \begin{tabular}{l}
(119) \\
(38) \\
(32) \\
7 \\
3 \\
7
\end{tabular} \& \begin{tabular}{l}
119 \\
(7) \\
(8) \\
2
\end{tabular} \& \begin{tabular}{l}
32 \\
(5) \\
(7)
\end{tabular} \& 38
8

5 \& 5 <br>

\hline | Eliminated from Census |
| :--- |
| Refund of contributions |
| Deaths |
| Included in error last year |
| Adjustment for multiple records | \& | (124) |
| :--- |
| (2) | \& | (58) |
| :--- |
| (1) | \& \& | (27) |
| :--- |
| (1) | \& | (182) |
| :--- |
| (30) |
| (1) | <br>

\hline Number of members as of December 31, 2013 \& 2,224 \& 1,685 \& 64 \& 688 \& 4,661 <br>
\hline
\end{tabular}

plan b - actives census by age:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Salary | Total <br> Salary |
| :---: | :---: | :---: | :---: | :---: | ---: |
| $16-20$ | 5 | 2 | 7 | 23,853 | 166,968 |
| $21-25$ | 54 | 38 | 92 | 27,054 | $2,488,937$ |
| $26-30$ | 70 | 115 | 185 | 33,234 | $6,148,262$ |
| $31-35$ | 98 | 143 | 241 | 36,595 | $8,819,321$ |
| $36-40$ | 85 | 113 | 198 | 39,137 | $7,749,090$ |
| $41-45$ | 122 | 166 | 288 | 39,650 | $11,419,219$ |
| $46-50$ | 142 | 158 | 300 | 41,326 | $12,397,858$ |
| $51-55$ | 167 | 163 | 330 | 40,789 | $13,460,263$ |
| $56-60$ | 172 | 149 | 321 | 41,248 | $13,240,661$ |
| $61-65$ | 116 | 90 | 206 | 41,190 | $8,485,226$ |
| $66-70$ | 48 | 34 | 82 | 40,766 | $3,342,784$ |
| $71-75$ | 24 | 8 | 32 | 39,022 | $1,248,705$ |
| $76-80$ | 4 | 0 | 1 | 1 | 181,161 |
| $81-85$ | 1,107 | 1,181 | 2,288 | 19,232 | 19,805 |
| TOTAL |  |  |  |  | 38,972 |

the active census includes 1,102 actives with vested benefits, including 64 DROP PARTICIPANTS AND 24 ACTIVE FORMER DROP PARTICIPANTS.
plan b - terminated members due a deferred retirement benefit:

| Age | Number Male | Number <br> Female | Total <br> Number | Average Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31-35 | 0 | 2 | 2 | 5,090 | 10,179 |
| 36-40 | 4 | 1 | 5 | 9,950 | 49,748 |
| 41-45 | 4 | 11 | 15 | 9,497 | 142,458 |
| 46-50 | 10 | 17 | 27 | 10,585 | 285,783 |
| 51-55 | 20 | 13 | 33 | 8,317 | 274,465 |
| 56-60 | 14 | 23 | 37 | 9,669 | 357,762 |
| 61-65 | 5 | 7 | 12 | 6,166 | 73,991 |
| 66-70 | 1 | 1 | 2 | 5,289 | 10,578 |
| 71-75 | 0 | 1 | 1 | 499 | 499 |
| 76-80 | 1 | 0 | 1 | 2,417 | 2,417 |
| TOTAL | 59 | 76 | 135 | 8,947 | 1,207,880 |

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

| Contributions | Ranging |  | Total |
| ---: | ---: | ---: | :---: |
| From | To | Number | Contributions |
| 0 | - | 99 | 1,043 |
| 100 | - | 499 | 243 |
| 500 | - | 999 | 77 |
| 1000 | - | 1999 | 61 |
| 2000 | - | 4999 | 93 |
| 5000 | - | 9999 | 30 |
| 10000 | - | 19999 | 3 |

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PLAN B - REGULAR RETIREES:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| ---: | :---: | :---: | :---: | :---: | ---: |
| $56-60$ | 7 | 4 | 11 | 22,731 | 250,046 |
| $61-65$ | 46 | 38 | 84 | 14,514 | $1,219,137$ |
| $66-70$ | 68 | 48 | 116 | 11,376 | $1,319,582$ |
| $71-75$ | 70 | 53 | 123 | 9,704 | $1,193,594$ |
| $76-80$ | 53 | 41 | 94 | 8,976 | 843,726 |
| $81-85$ | 25 | 24 | 49 | 7,049 | 345,398 |
| $86-90$ | 7 | 21 | 28 | 6,681 | 187,058 |
| $91-99$ | 3 | 13 | 16 | 8,293 | 132,685 |
| TOTAL | 279 | 242 | 521 | 10,540 | $5,491,226$ |

PLAN B - DISABILITY RETIREES:

| Age | Number Male | Number <br> Female | Total <br> Number | Average Benefit | $\begin{gathered} \text { Total } \\ \text { Benefit } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 36-40 | 1 | 0 | 1 | 5,293 | 5,293 |
| 41-45 | 1 | 0 | 1 | 9,697 | 9,697 |
| 46-50 | 2 | 3 | 5 | 7,584 | 37,920 |
| 51-55 | 5 | 2 | 7 | 10,664 | 74,650 |
| 56-60 | 15 | 8 | 23 | 9,768 | 224,664 |
| 61-65 | 16 | 5 | 21 | 6,577 | 138,107 |
| 66-70 | 11 | 7 | 18 | 5,906 | 106,315 |
| 71-75 | 2 | 0 | 2 | 6,659 | 13,318 |
| total | 53 | 25 | 78 | 7,820 | 609,964 |

PLAN B - SURVIVORS:

| Age | $\begin{gathered} \text { Number } \\ \text { Male } \end{gathered}$ | Number <br> Female | Total <br> Number | Average Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $31-35$ | 0 | 1 | 1 | 3,490 | 3,490 |
| 36-40 | 0 | 1 | 1 | 12,078 | 12,078 |
| 51-55 | 1 | 2 | 3 | 17,527 | 52,580 |
| 56-60 | 0 | 14 | 14 | 9,146 | 128,045 |
| 61-65 | 2 | 11 | 13 | 6,874 | 89,358 |
| 66-70 | 1 | 17 | 18 | 10,546 | 189,835 |
| 71-75 | 0 | 16 | 16 | 6,548 | 104,773 |
| 76-80 | 0 | 13 | 13 | 4,607 | 59,888 |
| 81-85 | 0 | 6 | 6 | 4,540 | 27,238 |
| 86-90 | 1 | 1 | 2 | 1,885 | 3,770 |
| 91-99 | 0 | 2 | 2 | 3,435 | 6,869 |
| TOTAL | 5 | 84 | 89 | 7,617 | 677,924 |

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PLAN B－ACTIVE MEMBERS：

| $\begin{gathered} \text { Attained } \\ \text { Ages } \end{gathered}$ | 0 | 1 | 2 | 3 | 4 | 5－9 | 10－14 | 15－19 | 20－24 | 25－29 | 30\＆Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0－20 | 7 |  |  |  |  |  |  |  |  |  |  | 7 |
| 21－25 | 35 | 22 | 15 | 11 | 4 | 5 |  |  |  |  |  | 92 |
| 26－30 | 55 | 34 | 25 | 19 | 15 | 37 |  |  |  |  |  | 185 |
| 31－35 | 38 | 30 | 26 | 17 | 18 | 75 | 33 | 4 |  |  |  | 241 |
| 36－40 | 27 | 20 | 18 | 18 | 19 | 49 | 42 | 5 |  |  |  | 198 |
| 41－45 | 33 | 28 | 20 | 13 | 13 | 77 | 54 | 29 | 18 | 3 |  | 288 |
| 46－50 | 20 | 22 | 14 | 14 | 24 | 61 | 49 | 48 | 20 | 17 | 11 | 300 |
| 51－55 | 23 | 21 | 14 | 19 | 19 | 70 | 50 | 41 | 26 | 25 | 22 | 330 |
| 56－60 | 22 | 20 | 17 | 9 | 18 | 61 | 53 | 39 | 32 | 21 | 29 | 321 |
| 61－65 | 5 | 8 | 3 | 6 | 11 | 48 | 49 | 29 | 20 | 10 | 17 | 206 |
| 66－70 | 2 | 3 | 5 |  | 4 | 20 | 18 | 11 | 7 | 4 | 8 | 82 |
| 71 \＆Over | 1 | 1 | 2 |  | 1 | 8 | 7 | 7 | 8 | 2 | 1 | 38 |
| Totals | 268 | 209 | 159 | 126 | 146 | 511 | 355 | 213 | 131 | 82 | 88 | 2288 |


Completed Years of Service

|  |  <br>  <br>  |
| :---: | :---: |
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Average
PLAN B－TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT：

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5－9 | 10－14 | 15－19 | 20－24 | 25－29 | 30\＆Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0－30 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 31－35 |  |  |  |  |  |  |  |  |  | 2 |  | 2 |
| 36－40 |  |  |  |  |  |  |  |  | 3 | 2 |  | 5 |
| 41－45 |  |  |  |  |  |  |  | 10 | 5 |  |  | 15 |
| 46－50 |  |  |  |  |  |  | 23 | 4 |  |  |  | 27 |
| $51-55$ |  |  | 1 |  |  | 25 | 7 |  |  |  |  | 33 |
| 56－60 | 2 | 4 | 5 | 8 | 6 | 12 |  |  |  |  |  | 37 |
| 61－65 | 3 | 2 | 2 | 3 | 2 |  |  |  |  |  |  | 12 |
| 66－70 | 2 |  |  |  |  |  |  |  |  |  |  | 2 |
| 71－75 | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
| 76－80 | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
| 81 \＆Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Totals | 9 | 6 | 8 | 11 | 8 | 37 | 30 | 14 | 8 | 4 | 0 | 135 |


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PLAN B - SERVICE RETIREES:
Completed Years Since Retirement

plan b - average annual benefits payable to service retirees:

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 |  | 30\&Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | 25-29 |  |  |
| 0-55 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 56-60 | 16,850 | 26,873 | 31,281 | 28,027 | 24,715 |  |  |  |  |  |  | 22,732 |
| 61-65 | 10,904 | 11,810 | 12,430 | 16,311 | 14,366 | 27,668 | 16,690 |  |  |  |  | 14,514 |
| 66-70 | 12,758 | 9,565 | 9,651 | 11,016 | 15,858 | 10,562 | 14,227 |  |  |  |  | 11,376 |
| 71-75 | 8,503 | 12,313 | 7,775 | 7,293 | 10,642 | 8,647 | 11,916 | 7,807 | 882 |  |  | 9,704 |
| 76-80 | 20,850 | 5,262 |  | 26,609 | 7,788 | 7,667 | 10,363 | 7,300 | 9,162 | 16,080 |  | 8,976 |
| 81-85 |  |  | 3,292 |  |  | 10,371 | 6,555 | 6,606 | 7,965 | 4,803 | 1,727 | 7,049 |
| 86-90 |  |  |  |  |  | 5,799 |  | 8,085 | 7,314 | 6,022 |  | 6,681 |
| 91 \& Over |  |  | 11,625 |  |  |  |  |  | 8,908 | 10,903 | 5,152 | 8,293 |
| Average | 12,238 | 11,204 | 11,168 | 14,343 | 14,107 | 10,383 | 11,221 | 7,110 | 7,829 | 7,772 | 4,663 | 10,540 |

PLAN B - SURVIVING BENEFICIARIES OF FORMER MEMBERS:

| Attained Ages | Completed Years Since Retirement |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30\&Over | Total |
| 0-30 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 31-35 |  |  |  |  |  |  |  | 1 |  |  |  | 1 |
| 36-40 |  |  |  |  |  | 1 |  |  |  |  |  | 1 |
| 41-45 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 46-50 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 51-55 |  |  | 1 |  |  | 1 | 1 |  |  |  |  | 3 |
| $56-60$ |  | 2 | 1 | 1 |  | 6 | 3 | 1 |  |  |  | 14 |
| 61-65 |  | 3 |  | 1 | 1 | 3 | 4 | 1 |  |  |  | 13 |
| 66-70 |  | 1 | 3 |  |  | 10 | 3 | 1 |  |  |  | 18 |
| 71-75 |  |  |  |  |  | 5 | 8 | 2 | 1 |  |  | 16 |
| 76-80 |  |  |  |  |  | 1 | 5 | 3 | 3 |  | 1 | 13 |
| 81-85 |  |  |  |  |  |  |  | 1 | 3 | 2 |  | 6 |
| 86-90 |  |  |  |  |  |  |  |  |  | 2 |  | 2 |
| 91 \& Over |  |  |  |  |  |  |  |  |  |  | 2 | 2 |
| Totals | 0 | 6 | 5 | 2 | 1 | 27 | 24 | 10 | 7 | 4 | 3 | 89 |



## EXHIBIT XX

## PLAN B: YEAR-TO-YEAR COMPARISON

Fiscal $2013 \quad$ Fiscal $2012 \quad$ Fiscal $2011 \quad$ Fiscal 2010

| Number of Active Members | 2,288 | 2,298 | 2,303 | 2,313 |
| :---: | :---: | :---: | :---: | :---: |
| Number of Retirees \& Survivors | 688 | 657 | 611 | 576 |
| Number of Terminated Due Deferred Benefits | 135 | 132 | 129 | 125 |
| Number Terminated Due Refunds | 1,550 | 1,504 | 1,471 | 1,430 |
| Active Lives Payroll | \$ 89,168,260 | \$ 86,882,261 | \$ 84,237,202 | \$ 81,999,193 |
| Retiree Benefits in Payment | \$ 6,779,114 | \$ 6,334,153 | \$ 5,746,033 | \$ 5,349,314 |
| Market Value of Assets | \$237,412,166 | \$ 196,577,145 | \$ 165,603,549 | \$ 161,776,161 |
| Actuarial Value of Assets | \$216,066,754 | \$ 186,172,779 | \$ 173,354,490 | \$ 163,075,793 |
| Actuarial Accrued Liability (EAN - GASB 50) | \$233,321,224 | \$ 212,489,491 | \$198,962,892 | \$186,118,552 |
| Ratio of AVA to GASB-50 Accrued Liability | 92.60\% | 87.62\% | 87.13\% | 87.62\% |
| Present Value of Future Employer Normal Cost | \$ 71,374,679 | \$ 74,251,290 | \$ 71,951,379 | \$ 67,556,191 |
| Present Value of Future Employee Contrib. | \$ 19,192,399 | \$ 18,544,210 | \$ 18,084,026 | \$ 17,527,008 |
| Funding Deposit Account Credit Balance | \$ 2,126,959 | \$ 1,559,909 | \$ 1,012,867 | \$ 334,656 |
| Present Value of Future Benefits | \$304,506,873 | \$ 277,408,370 | \$ 262,377,028 | \$ 247,824,336 |

Fiscal 2014

Employee Contribution Rate

Projected Tax Contribution as \% of Payroll

Actuarially Required Net Direct Employer Contribution Rate

Actual Employer Contribution Rate
3.00\%
$1.21 \%$
$8.60 \%$
$9.25 \%$

Fiscal 2013
$3.00 \%$
1.14\%
9.33\%
$10.00 \%$
10.00\%
$10.00 \%$

| Fiscal 2009 | Fiscal 2008 | Fiscal 2007 | Fiscal 2006 | Fiscal 2005 | Fiscal 2004 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2,290 | 2,194 | 2,030 | 1,990 | 1,970 | 2,062 |
| 560 | 548 | 530 | 508 | 486 | 461 |
| 118 | 108 | 97 | 98 | 91 | 69 |
| 1,426 | 1,410 | 1,353 | 1,369 | 1,298 | 1,243 |
| \$ 79,373,895 | \$ 74,891,671 | \$ 62,859,807 | \$ 59,155,664 | \$ 54,810,437 | \$ 54,325,541 |
| \$ 4,986,096 | \$ 4,744,664 | \$ 4,400,123 | \$ 4,029,570 | \$ 3,588,698 | \$ 3,313,829 |
| \$ 134,940,283 | \$ 109,749,342 | \$ 144,163,791 | \$ 132,695,110 | \$ 117,661,283 | \$ 110,700,198 |
| \$ 150,446,497 | \$ 136,139,102 | \$ 141,756,387 | \$ 123,781,772 | \$ 111,443,610 | \$ 99,526,756 |
| \$171,160,473 | \$ 162,127,929 | \$144,913,286 | \$125,969,852 | \$115,871,479 | \$102,077,610 |
| 87.90\% | 83.97\% | 97.82\% | 98.26\% | 96.18\% | 97.50\% |
| \$ 60,488,525 | \$ 63,985,978 | \$ 36,302,827 | \$ 30,194,074 | \$ 30,452,448 | \$ 30,454,650 |
| \$ 16,221,775 | \$ 15,422,566 | \$ 13,275,174 | \$ 12,440,078 | \$ 11,815,922 | \$ 12,600,693 |
| \$ 311,308 | \$ 289,589 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| \$ 226,845,489 | \$ 215,258,057 | \$ 191,334,388 | \$ 166,415,924 | \$ 153,711,980 | \$ 142,582,099 |


| Fiscal 2010 | Fiscal 2009 | Fiscal 2008 | Fiscal 2007 | Fiscal 2006 | Fiscal 2005 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $3.00 \%$ | $3.00 \%$ | $3.00 \%$ | $3.00 \%$ | $3.00 \%$ | $3.00 \%$ |
| $1.13 \%$ | $1.13 \%$ | $1.11 \%$ | $1.05 \%$ | $1.03 \%$ | $1.00 \%$ |
| $8.60 \%$ | $9.56 \%$ | $6.13 \%$ | $5.39 \%$ | $5.90 \%$ | $5.45 \%$ |
| $10.00 \%$ | $6.25 \%$ | $6.00 \%$ | $6.00 \%$ | $5.75 \%$ | $5.75 \%$ |

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

All members of the Parochial Employees' Retirement System are participants in either Plan A or Plan B according to the provisions of the agreement entered into by their employer. All employees of a participating employer must participate in the same plan. The principal provisions of each plan are given below. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

PLAN A:
CONTRIBUTION RATES - The Plan A fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of $8 \%$ through $11 \%$ of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. In addition, each sheriff and ex-officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, excepting Orleans Parish and East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

RETIREMENT BENEFITS - Members hired on or before December 31, 2006, with seven years of creditable service may retire at age sixty-five; ten years of creditable service may retire at age sixty; members with twenty-five years of service may retire at age fifty-five; members with thirty years of service may retire regardless of age. Members hired on or after January 1, 2007, with seven years of creditable service may retire at age sixty-seven; ten years of creditable service may retire at age sixtytwo; members with thirty years of service may retire at age fifty-five. The retirement allowance is equal to three percent of the member's final compensation multiplied by his years of creditable service; however, any employee who was a member of the supplemental plan only prior to the revision date has the benefit earned for service credited prior to the revision date on the basis of one percent of final compensation plus two dollars per month for each year of service credited prior to the revision date, and three percent of final compensation for each year of service credited after the revision date. All accumulated annual leave for which payment cannot be made in accordance with law and all unused sick leave accumulated at the time of retirement is included in the member's creditable service for retirement computation purposes. The retirement allowance may not exceed the greater of one hundred percent of member's final salary or final compensation. Final compensation for members hired before January 1, 2007 refers to the highest 36 months of consecutive or joined service; final compensation for members hired after December 31, 2006 refers to the highest 60 months of consecutive or joined service.

DISABILITY BENEFITS - Five years of creditable service are required in order to be eligible for disability benefits for members hired on or before December 31, 2006. Seven years of creditable service are required in order to be eligible for disability benefits for members hired on or after January 1, 2007. Disabled members receive a normal retirement allowance if eligible. Otherwise, the member receives the lesser of three percent of compensation multiplied by his years of service, not to be less than fifteen years, or the accrual percentage as defined for retirement benefits multiplied by final compensation multiplied by years of service assuming continued service to age sixty for members hired on or before December 31, 2006 or age sixty-two for members hired on or after January 1, 2007.

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SURVIVOR BENEFITS - Five years of creditable service is required in order to be eligible for survivor benefits. If a member is eligible for normal retirement at the time of death, the surviving spouse receives an automatic option 2 benefit. If the member was not eligible for a normal retirement, the surviving unmarried spouse with minor children receives sixty percent of final compensation. If the member was not eligible for a normal retirement, the surviving unmarried spouse with no minor children receives forty percent of final compensation payable upon the attainment of age sixty by the spouse, or upon becoming disabled. Minor children with no unmarried spouse receive thirty percent of final compensation each, not to exceed a total of sixty percent of final compensation.

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

## PLAN B:

CONTRIBUTION RATES - The Plan B fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of $3 \%$ through $5 \%$ of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. In addition, each sheriff and ex officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish excepting, Orleans Parish and East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which the employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

RETIREMENT BENEFITS: - Members hired on or before December 31, 2006, with seven years of creditable service my retire at age sixty-five; ten years of creditable service may retire at age sixty; members with thirty years of service may retire at age fifty-five. Members hired on or after January 1, 2007, with seven years of creditable service my retire at age sixty-seven; ten years of creditable service may retire at age sixty-two; members with thirty years of service may retire at age fifty-five. The retirement allowance is equal to two percent of the member's final compensation multiplied by the years of creditable service. All accumulated annual leave for which payment cannot be made in accordance with law and all unused sick leave accumulated at the time of retirement is included in the member's creditable service for retirement computation purposes. Final compensation for members hired before January 1, 2007 refers to the highest 36 months of consecutive or joined service; final compensation for members hired after December 31, 2006 refers to the highest 60 months of consecutive or joined service.

DISABILITY BENEFITS - Five years of creditable service is required in order to be eligible for disability benefits for members hired on or before December 31, 2006. Seven years of creditable service is required in order to be eligible for disability benefits for members hired on or after January 1, 2007. Disabled members receive a normal retirement allowance, if eligible. Otherwise, the member receives the lesser of two percent of compensation multiplied by the years of service, not to be less

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than fifteen years, or two percent of final compensation multiplied by the years of service assuming continued service to age sixty for members hired on or before December 31, 2006 or age sixty-two for members hired on or after January 1, 2007.

SURVIVOR BENEFITS - The surviving spouse of a member who was eligible for normal retirement at the time of death receives an automatic option 2 benefit. The surviving spouse of a member with ten or more years of creditable service and not eligible for normal retirement at the time of death receives an option 2 benefit payable at attainment of age fifty by the spouse.

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

## DEFERRED RETIREMENT OPTION PLAN:

In lieu of terminating employment and accepting a service retirement allowance, any member of Plan A or Plan B who is eligible for a normal retirement may elect to participate in the Deferred Retirement Option Plan (DROP) for up to three years and defer the receipt of benefits. In terms of DROP eligibility, any member whose service, when combined with service in any other state or statewide public retirement system exceeds thirty years will be eligible to include reciprocally recognized service credit. Upon commencement of participation in the plan, employer contributions are payable but employee contributions cease. The monthly retirement benefits that would have been payable, had the person elected to cease employment and receive a service retirement allowance, are paid into the DROP fund. This fund does earn interest once the member terminates participation in DROP but continues their employment. The interest rate is based upon the rate of return of a short-term U.S. Treasury security, a group of short-term U.S. Treasury Securities, or an index of short-term U.S. Treasury securities to be selected by the board of trustees. This interest is to be credited to the individual's account balance on an annual basis. Additionally, no cost-of-living increases are payable to the participants until employment which made them eligible to become members of the system has been terminated for at least one full year. Upon termination of employment prior to, or at the end of, the specified period of participation, a participant in the plan may receive, at his option, a lump sum from the account equal to the payments into the account, a true annuity based upon his account balance in that fund, or any other method of payment if approved by the board of trustees. The monthly benefits that were being paid into the Deferred Retirement Option Plan fund will begin to be paid to the retiree. If a participant dies during the participation in the plan, a lump sum equal to his account balance in the plan fund shall be paid to his named beneficiary or, if none, to his estate. If employment is not terminated at the end of the three years, payments into the plan fund cease and the person resumes active contributing membership in the system. Additional accrued benefits are based on final average compensation used to calculate the member's original benefit unless the additional period of service is at least thirty-six months for those individuals hired on or before December 31, 2006; or at least sixty months for those individuals hired on or after January 1, 2007.

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## ACTUARIAL ASSUMPTIONS

In determining actuarial costs, certain assumptions must be made regarding future experience under the plan. These assumptions include the rate of investment return, mortality of plan members, rates of salary increase, rates of retirement, rates of termination, rates of disability, and various other factors that have an impact on the cost of the plan. To the extent that future experience varies from the assumptions selected for valuation, future costs will be either higher or lower than anticipated. The following chart illustrates the effect of emerging experience on the plan.

Factor<br>Investment Earnings Rate<br>Annual Rate of Salary Increase<br>Rates of Retirement<br>Rates of Termination<br>Rates of Disability<br>Rates of Mortality

Increase in Factor Results in
Decrease in Cost
Increase in Cost
Increase in Cost
Decrease in Cost
Increase in Cost
Decrease in Cost

The following assumptions apply to both Plan A and Plan B unless stated otherwise.
ACTUARIAL COST METHOD: Plan A: The Aggregate Actuarial Cost Method with allocation based on earnings. The normal cost is interest adjusted for midyear payment.

Plan B: The Aggregate Actuarial Cost Method with allocation based on earnings. The normal cost is interest adjusted for midyear payment.

ACTUARIAL ASSET VALUES: Invested assets are valued at market value adjusted to defer four-fifths of all earnings above or below the valuation interest rate in the valuation year, three-fifths of all earnings above or below the valuation interest rate in the prior year, two-fifths of all earnings above or below the valuation interest rate from two years prior, and one-fifth of all earnings above or below the valuation interest rate from three years prior. The resulting smoothed values are subject to a corridor of $85 \%$ to $115 \%$ of the market value of assets. If the smoothed value falls outside the corridor, the actuarial value is set equal to the average of the corridor limit and the smoothed value.

VALUATION INTEREST RATE: 7.25\%
ANNUAL SALARY INCREASE RATE: $\quad 5.75 \%$ (2.50\% Merit $/ 3.25 \%$ Inflation)

ANNUITANT, BENEFICIARY AND ACTIVE MORTALITY

RP2000 Combined Healthy table set back 1 year for males and RP2000 Combined Healthy Female Table for females.

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RETIREE COST OF LIVING INCREASE: The present value of future retirement benefits is based on benefits currently being paid by the system and includes previously granted cost of living increases. The present values do not include provisions for potential future increases not yet authorized by the Board of Trustees.

RATES OF RETIREMENT: The table of these rates is included later in the report. All eligible persons age 80 and over in both plans are assumed to retire immediately. These rates apply only to those individuals eligible to retire. Rates are multiplied by a constant of 2 in the first year in which members become eligible for retirement.

RATES OF WITHDRAWAL: The rates of withdrawal are applied based upon completed years of service:

| PLAN A: | Service | Factor | Service | Factor |
| :---: | :---: | :---: | :---: | ---: |
|  | $<1$ | 0.25 | 11 | 0.04 |
|  | 1 | 0.21 | 12 | 0.03 |
|  | 2 | 0.15 | 13 | 0.03 |
|  | 3 | 0.12 | 14 | 0.02 |
|  | 4 | 0.10 | 15 | 0.02 |
|  | 5 | 0.09 | 16 | 0.02 |
|  | 6 | 0.08 | 17 | 0.02 |
|  | 7 | 0.07 | 18 | 0.02 |
|  | 8 | 0.06 | 19 | 0.02 |
|  | 9 | 0.05 | $>19$ | 0.01 |
|  | 10 | 0.04 |  |  |
|  | PLAN B: | Service | Factor | Service |
|  | $<1$ | 0.23 | 10 | Factor |
|  | 1 | 0.20 | 11 | 0.06 |
|  | 2 | 0.16 | 12 | 0.06 |
|  | 3 | 0.15 | 13 | 0.06 |
|  | 4 | 0.11 | 14 | 0.06 |
|  | 5 | 0.10 | 15 | 0.03 |
|  | 6 | 0.08 | 16 | 0.03 |
|  | 7 | 0.08 | 17 | 0.03 |
|  | 8 | 0.08 | $>17$ | 0.01 |

Note: The withdrawal rate for individuals eligible to retire is assumed to be zero.

MARRIAGE STATISTICS: $80 \%$ of the members are assumed to be married; husbands are assumed to be three years older than wives.

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FAMILY STATISTICS: Assumptions used in determining the cost of various survivor benefits are listed below:

| Age at <br> Death | \% with <br> Children | \# of <br> Children | Average <br> Age |
| :---: | :---: | :---: | :---: |
| 25 | $62 \%$ | 1.7 | 6 |
| 35 | $82 \%$ | 2.1 | 10 |
| 45 | $66 \%$ | 1.8 | 13 |
| 55 | $19 \%$ | 1.4 | 15 |
| 65 | $2 \%$ | 1.4 | 15 |

DISABLED LIVES MORTALITY: RP-2000 Disabled Lives Mortality Tables for Males and Females

VESTING ELECTING PERCENTAGE: The percent of those vested who elect deferred benefits in lieu of contribution refunds are as follows:

| Plan A: | Under Age 30: | $35 \%$ |
| :--- | :--- | :--- |
|  | Age 30-39: | $40 \%$ |
|  | Age 40-49: | $45 \%$ |
|  | Above Age 49: | $65 \%$ |
| Plan B: | Under Age 40: | $55 \%$ |
|  | Age 40 - 49: | $60 \%$ |
|  | Above Age 49: | $75 \%$ |

SICK AND ANNUAL LEAVE: Retirees were assumed to convert one month of sick and annual leave to retirement credit for each ten years of service credit.

RATES OF DROP ENTRY: The table of these rates is included later in the report. These rates apply only to those individuals eligible to enter the DROP plan. Rates are multiplied by a constant in the first year in which a member becomes eligible to enter DROP. For members of Plan A who were first employed before January 1, 2007 and for members of Plan B this constant is 2 . For members of Plan A who were first employed on or after January 1, 2007 the constant is 4.

DROP PARTICIPATION PERIOD: All DROP participants are assumed to participate for 3 years and to retire at the end of their DROP participation period.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS:

Retirement rates for active former DROP participants are $22 \%$ for Plan A and $21 \%$ for Plan B provided the member is below age 80 . For members age 80 or over, the retirement rate is set at $100 \%$.

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## ACTUARIAL TABLES AND RATES

(For Participants Who Were First Hired Before January 1, 2007)

| Age | Male <br> Mortality Rates | Female Mortality Rates | Disability Rates | Plan A Retirement Rates | Plan B Retirement Rates | Plan A DROP Entry Rates | $\begin{gathered} \text { Plan B } \\ \text { DROP Entry } \\ \text { Rates } \end{gathered}$ | Remarriage Rates |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 0.00030 | 0.00019 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 19 | 0.00032 | 0.00019 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 20 | 0.00033 | 0.00019 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 21 | 0.00035 | 0.00019 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05213 |
| 22 | 0.00036 | 0.00019 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04834 |
| 23 | 0.00037 | 0.00020 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04522 |
| 24 | 0.00037 | 0.00020 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04270 |
| 25 | 0.00038 | 0.00021 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04070 |
| 26 | 0.00038 | 0.00021 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03915 |
| 27 | 0.00038 | 0.00022 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03799 |
| 28 | 0.00038 | 0.00024 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03714 |
| 29 | 0.00039 | 0.00025 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03654 |
| 30 | 0.00041 | 0.00026 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03611 |
| 31 | 0.00044 | 0.00031 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03578 |
| 32 | 0.00050 | 0.00035 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03549 |
| 33 | 0.00056 | 0.00039 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03515 |
| 34 | 0.00063 | 0.00044 | 0.00045 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03471 |
| 35 | 0.00070 | 0.00047 | 0.00051 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03409 |
| 36 | 0.00077 | 0.00051 | 0.00057 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03286 |
| 37 | 0.00084 | 0.00055 | 0.00063 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03139 |
| 38 | 0.00090 | 0.00060 | 0.00072 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02973 |
| 39 | 0.00096 | 0.00065 | 0.00081 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02787 |
| 40 | 0.00102 | 0.00071 | 0.00093 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02585 |
| 41 | 0.00108 | 0.00077 | 0.00105 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02352 |
| 42 | 0.00114 | 0.00085 | 0.00117 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02111 |
| 43 | 0.00122 | 0.00094 | 0.00132 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01868 |
| 44 | 0.00130 | 0.00103 | 0.00150 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01629 |
| 45 | 0.00140 | 0.00112 | 0.00171 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01400 |
| 46 | 0.00151 | 0.00122 | 0.00195 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.01208 |
| 47 | 0.00162 | 0.00133 | 0.00219 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.01034 |
| 48 | 0.00173 | 0.00143 | 0.00249 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.00879 |
| 49 | 0.00186 | 0.00155 | 0.00282 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.00744 |
| 50 | 0.00200 | 0.00168 | 0.00321 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.00629 |
| 51 | 0.00214 | 0.00185 | 0.00366 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.00551 |
| 52 | 0.00245 | 0.00202 | 0.00414 | 0.20000 | 0.00000 | 0.35000 | 0.00000 | 0.00493 |
| 53 | 0.00267 | 0.00221 | 0.00471 | 0.11500 | 0.00000 | 0.35000 | 0.00000 | 0.00451 |
| 54 | 0.00292 | 0.00242 | 0.00534 | 0.11500 | 0.00000 | 0.35000 | 0.00000 | 0.00423 |
| 55 | 0.00320 | 0.00272 | 0.00606 | 0.11500 | 0.18000 | 0.35000 | 0.17000 | 0.00000 |
| 56 | 0.00362 | 0.00309 | 0.00690 | 0.11500 | 0.18000 | 0.22000 | 0.17000 | 0.00000 |
| 57 | 0.00420 | 0.00348 | 0.00783 | 0.11500 | 0.18000 | 0.22000 | 0.17000 | 0.00000 |
| 58 | 0.00469 | 0.00392 | 0.00888 | 0.11500 | 0.18000 | 0.22000 | 0.17000 | 0.00000 |
| 59 | 0.00527 | 0.00444 | 0.01011 | 0.11500 | 0.14000 | 0.22000 | 0.13500 | 0.00000 |
| 60 | 0.00595 | 0.00506 | 0.01464 | 0.11500 | 0.14000 | 0.22000 | 0.13500 | 0.00000 |
| 61 | 0.00675 | 0.00581 | 0.01464 | 0.11500 | 0.14000 | 0.10000 | 0.13500 | 0.00000 |
| 62 | 0.00768 | 0.00666 | 0.01464 | 0.11500 | 0.14000 | 0.10000 | 0.13500 | 0.00000 |
| 63 | 0.00876 | 0.00765 | 0.01464 | 0.11500 | 0.14000 | 0.10000 | 0.13500 | 0.00000 |
| 64 | 0.01001 | 0.00862 | 0.01464 | 0.11500 | 0.14000 | 0.10000 | 0.13500 | 0.00000 |
| 65 | 0.01128 | 0.00971 | 0.01464 | 0.11500 | 0.14000 | 0.10000 | 0.13500 | 0.00000 |

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# ACTUARIAL TABLES AND RATES 

(For Participants Who Were First Hired On or After January 1, 2007)

| Age | Male Mortality Rates | Female Mortality Rates | Disability Rates | Plan A Retirement Rates | Plan B Retirement Rates | Plan A DROP Entry Rates | Plan B DROP Entry Rates | Remarriage Rates |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 0.00030 | 0.00019 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 19 | 0.00032 | 0.00019 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 20 | 0.00033 | 0.00019 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05665 |
| 21 | 0.00035 | 0.00019 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.05213 |
| 22 | 0.00036 | 0.00019 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04834 |
| 23 | 0.00037 | 0.00020 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04522 |
| 24 | 0.00037 | 0.00020 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04270 |
| 25 | 0.00038 | 0.00021 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.04070 |
| 26 | 0.00038 | 0.00021 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03915 |
| 27 | 0.00038 | 0.00022 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03799 |
| 28 | 0.00038 | 0.00024 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03714 |
| 29 | 0.00039 | 0.00025 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03654 |
| 30 | 0.00041 | 0.00026 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03611 |
| 31 | 0.00044 | 0.00031 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03578 |
| 32 | 0.00050 | 0.00035 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03549 |
| 33 | 0.00056 | 0.00039 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03515 |
| 34 | 0.00063 | 0.00044 | 0.00038 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03471 |
| 35 | 0.00070 | 0.00047 | 0.00043 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03409 |
| 36 | 0.00077 | 0.00051 | 0.00048 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03286 |
| 37 | 0.00084 | 0.00055 | 0.00053 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.03139 |
| 38 | 0.00090 | 0.00060 | 0.00060 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02973 |
| 39 | 0.00096 | 0.00065 | 0.00068 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02787 |
| 40 | 0.00102 | 0.00071 | 0.00078 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02585 |
| 41 | 0.00108 | 0.00077 | 0.00088 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02352 |
| 42 | 0.00114 | 0.00085 | 0.00098 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.02111 |
| 43 | 0.00122 | 0.00094 | 0.00110 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01868 |
| 44 | 0.00130 | 0.00103 | 0.00125 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01629 |
| 45 | 0.00140 | 0.00112 | 0.00143 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01400 |
| 46 | 0.00151 | 0.00122 | 0.00163 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01208 |
| 47 | 0.00162 | 0.00133 | 0.00183 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.01034 |
| 48 | 0.00173 | 0.00143 | 0.00208 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00879 |
| 49 | 0.00186 | 0.00155 | 0.00235 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00744 |
| 50 | 0.00200 | 0.00168 | 0.00268 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00629 |
| 51 | 0.00214 | 0.00185 | 0.00305 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00551 |
| 52 | 0.00245 | 0.00202 | 0.00345 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00493 |
| 53 | 0.00267 | 0.00221 | 0.00392 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00451 |
| 54 | 0.00292 | 0.00242 | 0.00445 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00423 |
| 55 | 0.00320 | 0.00272 | 0.00505 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 56 | 0.00362 | 0.00309 | 0.00575 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 57 | 0.00420 | 0.00348 | 0.00653 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 58 | 0.00469 | 0.00392 | 0.00740 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 59 | 0.00527 | 0.00444 | 0.00843 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 60 | 0.00595 | 0.00506 | 0.01220 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 61 | 0.00675 | 0.00581 | 0.01220 | 0.22800 | 0.22000 | 0.09600 | 0.19000 | 0.00000 |
| 62 | 0.00768 | 0.00666 | 0.01220 | 0.19000 | 0.17000 | 0.08000 | 0.15000 | 0.00000 |
| 63 | 0.00876 | 0.00765 | 0.01220 | 0.19000 | 0.17000 | 0.08000 | 0.15000 | 0.00000 |
| 64 | 0.01001 | 0.00862 | 0.01220 | 0.19000 | 0.17000 | 0.08000 | 0.15000 | 0.00000 |
| 65 | 0.01128 | 0.00971 | 0.01220 | 0.19000 | 0.17000 | 0.08000 | 0.15000 | 0.00000 |

## PRIOR YEAR ACTUARIAL ASSUMPTIONS

The actuarial cost method was changed for Plan A. The following describes the prior cost method:
ACTUARIAL COST METHOD: Plan A: Frozen Attained Age Normal Actuarial Method with allocation based on earnings. The normal cost is interest adjusted for midyear payment. The normal costs are calculated by aggregating present values of benefits and salaries for active members. The frozen actuarial accrued liability was calculated on the Projected Unit Credit Cost Method.

The valuation interest rate was changed for both Plans A and B as of December 31, 2013. The following describes the valuation interest rate through December 31, 2013.

VALUATION INTEREST RATE: $7.50 \%$

## GLOSSARY

Accrued Benefit - The pension benefit that an individual has earned as of a specific dated based on the provisions of the plan and the individual's age, service, and salary as of that date.

Actuarial Accrued Liability - The actuarial present value of benefits payable to members of the fund less the present value of future normal costs attributable to the members.

Actuarial Assumptions - Assumptions as to the occurrence of future events affecting pension costs. These assumptions include rates of mortality, withdrawal, disablement, and retirement. Also included are rates of investment earnings, changes in compensation, as well as statistics related to marriage and family composition.

Actuarial Cost Method - A procedure for determining the portion of the cost of a pension plan to be allocated to each year. Each cost method allocates a certain portion of the actuarial present value of benefits between the actuarial accrued liability and future normal costs. Once this allocation is made, a determination of the normal cost attributable to a specific year can be made along with the payment to amortize any unfunded actuarial accrued liability. To the extent that a particular funding method allocates a greater (lesser) portion of the actual present value of benefits to the actuarial accrued liability it will allocate less (more) to future normal costs.

Actuarial Equivalence - Payments or receipts with equal actuarial value on a given date when valued using the same set of actuarial assumptions.

Actuarial Gain (Loss) - The financial effect on the fund of the difference between the expected and actual experience of the fund. The experience may be related to investment earnings above (or below) those expected or changes in the liability structure due to fewer (or greater) than the expected numbers of retirements, deaths, disabilities, or withdrawals. In addition, other factors such as pay increases above (or below) those forecast can result in actuarial gains or losses. The effect of such gains (or losses) is to decrease (or increase) future costs.

Actuarial Present Value - The value, as of a specified date, of an amount or series of amounts payable or receivable thereafter, with each amount adjusted to reflect the time value of money (through accrual of interest) and the probability of payments. For example: if $\$ 600$ invested today will be worth $\$ 1,000$ in 10 years and there is a $50 \%$ probability that a person will live 10 years, then the actuarial present value of $\$ 1,000$ payable to that person if he should survive 10 years is $\$ 300$.

Actuarial Value of Assets - The value of cash, investments, and other property belonging to the pension plan as used by the actuary for the purpose of the actuarial valuation. This may correspond to the book value, market value, or some modification involving either or both book and market value. Adjustments to market values are often made to reduce the volatility of asset values.

Asset Gain (Loss) - That portion of the actuarial gain attributable to investment performance above (below) the expected rate of return in the actuarial assumptions.

Amortization Payment - That portion of the pension plan contribution designated to pay interest and reduce the outstanding principal balance of unfunded actuarial accrued liability. If the amortization

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payment is less than the accrued interest on the unfunded actuarial accrued liability the outstanding principal balance will increase.

Contribution Shortfall (Excess) - The difference between contributions recommended in the prior valuation and the actual amount received.

Decrements - Events which result in the termination of membership in the system such as retirement, disability, withdrawal, or death.

Employer Normal Cost - That portion of the normal cost not attributable to employee contributions. It includes both direct contributions made by the employer and contributions from other non-employee sources such as revenue sharing and revenues related to taxes.

Funded Ratio - A measure of the ratio of assets to liabilities of the system according to a specific definition of those two values. Typically the assets used in the measure are the actuarial value of assets; the liabilities are defined by reference to some recognized actuarial funding method. Thus the funded ratio of a plan depends not only on the financial strength of the plan but also on the funding method used to determine the liabilities and the asset valuation method used to determine the assets in the ratio.

Normal Cost - That portion of the actuarial present value of pension plan benefits and expenses allocated to a valuation year by the actuarial cost method. This is analogous to one year's insurance premium.

Pension Benefit Obligation - The actuarial present value of benefits earned or credited to date based on the members expected final average compensation at retirement. For current retirees or terminated members this is equivalent to the actuarial present value of their accrued benefit.

Projected Benefits - The benefits expected to be paid in the future based on the provisions of the plan and the actuarial assumptions. The projected values are based on anticipated future advancement in age and accrual of service as well as increases in salary paid to the participant.

Unfunded Actuarial Accrued Liability - The excess of the actuarial accrued liability over the actuarial value of assets.

Vested Benefits - Benefits that the members are entitled to even if they withdraw from service.

## NOTES

