# MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM 

ACTUARIAL VALUATION AS OF JUNE 30, 2014

# G. S. CURRAN \& COMPANY, LTD. <br> Actuarial Services <br> 10555 N. Glenstone Place • Baton Rouge, Louisiana 70810 • (225)769-4825 

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January 9, 2015

Board of Trustees
Municipal 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 Municipal Employees' Retirement System for the fiscal year ending June 30, 2014. 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 Municipal Employees' Retirement System of the State of Louisiana. The primary purpose of this report is to determine the actuarially required contribution for the retirement system for the fiscal year ending June 30, 2015, and to recommend the net direct employer contribution rate for fiscal 2016. This report does not contain the information necessary for accounting disclosures as required by Governmental Accounting Standards Board (GASB) Statements 67 and 68; that information is included in a separate report. This report was prepared exclusively for the Municipal Employees' Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

In our opinion, all of the assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the fund. 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 MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM - PLAN A

| Valuation Date: | June 30, 2014 |  |  | June 30, 2013 |
| :---: | :---: | :---: | :---: | :---: |
| Census Summary: Active Members |  | 4,894 |  | 4,939 |
| Retired Members and Survivors |  | 3,177 |  | 3,106 |
| Terminated Due a Deferred Benefit |  | 184 |  | 193 |
| Terminated Due a Refund |  | 2,667 |  | 2,672 |
| Payroll: | \$ | 167,852,836 | \$ | 167,422,222 |
| Benefits in Payment: | \$ | 51,636,071 | \$ | 48,994,132 |
| Frozen Unfunded Actuarial Accrued Liability: | \$ | 74,454,702 | \$ | 75,038,341 |
| Market Value of Assets (MVA): | \$ | 730,072,543 | \$ | 657,723,192 |
| Actuarial Asset Value (AVA): | \$ | 751,235,484 | \$ | 717,816,409 |
| Actuarial Accrued Liability (Entry Age Normal): | \$ | 967,584,136 | \$ | 948,970,683 |
| Funded Ratio (MVA/Entry Age Normal Accrued Liability): |  | 75.45\% |  | 69.31\% |

## FISCAL 2015

FISCAL 2014

| Employers' Normal Cost (July 1): | $\$$ | $30,894,803$ | $\$$ | $32,965,067$ |
| :--- | :--- | ---: | :--- | ---: |
| Amortization Cost (July 1): | $\$$ | $6,191,251$ | $\$$ | $5,938,850$ |
| Interest Adjusted Actuarially Required Contributions |  |  |  |  |
| Including Estimated Administrative Costs: | $\$$ | $39,623,854$ | $\$$ | $41,388,549$ |
| Projected Ad Valorem and Revenue Sharing | $\$$ | $6,057,083$ | $\$$ | $5,801,149$ |
| Actuarially Required Net Direct Employer Contributions | $\$$ | $33,566,771$ | $\$$ | $35,587,400$ |
| Actuarially Required Net Direct Employer Contribution Rate |  | $19.48 \%$ | $20.62 \%$ |  |
| Actual Net Direct Employer Contribution Rate: | $20.75 \% \quad \dagger$ | $18.75 \%$ |  |  |

Minimum Net Direct Employer Contribution Rate: For Fiscal 2016: 19.25\% For Fiscal 2015: 20.75\%
Employee Contribution Rate: 9.50\% of Payroll
Actuarial Cost Method: Frozen Attained Age Normal Actuarial Cost Method
Valuation Interest Rate: 7.75\% (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 phase in asset earnings above or below the assumed rate of return over a five-year period with limits set at $85 \%$ and $115 \%$ of the market value of assets. When the adjusted value falls outside of the limits, the actuarial value is set equal to the average of the limited and adjusted value.

Changes in Valuation Methods, Assumptions, and Amortization Periods: Change in liability valuation model program.
Method of Recognizing Gains and Losses: Under the Frozen Attained Age Normal Method, actuarial gains and losses are spread over future normal costs.
$\dagger$ Includes 1\% withdrawal from the Funding Deposit Account

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

| Valuation Date: | June 30, 2014 | June 30, 2013 |
| :---: | :---: | :---: |
| Census Summary: Active Members | 2,168 | 2,128 |
| Retired Members | 916 | 900 |
| Terminated Due a Deferred Benefit | 74 | 61 |
| Terminated Due a Refund | 1,170 | 1,155 |
| Payroll: | \$ 67,939,158 | \$ 65,928,929 |
| Benefits in Payment: | \$ 9,141,803 | \$ 8,793,050 |
| Frozen Unfunded Actuarial Accrued Liability: | \$ 3,421,001 | \$ 3,740,857 |
| Market Value of Assets: | \$ 156,659,396 | \$ 140,744,063 |
| Actuarial Asset Value: | \$ 161,992,280 | \$ 153,851,774 |
| Actuarial Accrued Liability (Entry Age Normal): | \$ 199,762,726 | \$ 192,160,973 |

Funded Ratio (MVA/Entry Age Normal Accrued Liability):
78.42\%
73.24\%

|  | 2015 |  |  | 2014 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Employers' Normal Cost (July 1): | \$ | 7,720,629 |  | \$ | 7,649,570 |
| Amortization Cost (July 1): Interest Adjusted Actuarially Required Contributions | \$ | 554,596 |  | \$ | 565,915 |
| Including Estimated Administrative Costs: | \$ | 9,046,279 |  | \$ | 8,923,745 |
| Projected Ad Valorem and Revenue Sharing | \$ | 2,372,918 |  | \$ | 2,284,425 |
| Actuarially Required Net Direct Employer Contributions | \$ | 6,673,361 |  | \$ | 6,639,320 |
| Actuarially Required Net Direct Employer Contribution Rate |  | 9.60\% |  |  | 9.82\% |
| Actual Net Direct Employer Contribution Rate: |  | 10.00\% | $\dagger$ |  | 8.75\% |

Minimum Net Direct Employer Contribution Rate: For Fiscal 2016: 9.50\% For Fiscal 2015: 10.00\%
Employee Contribution Rate: 5.00\% of salary
Actuarial Cost Method: Frozen Attained Age Normal Actuarial Cost Method
Valuation Interest Rate: 7.75\% (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 phase in asset earnings above or below the assumed rate of return over a five-year period with limits set at $85 \%$ and $115 \%$ of the market value of assets. When the adjusted value falls outside of the limits, the actuarial value is set equal to the average of the limited and adjusted value.

Changes in Valuation Methods, Assumptions, and Amortization Periods: Change in liability valuation model program.
Method of Recognizing Gains and Losses: Under the Frozen Attained Age Normal Method, actuarial gains and losses are spread over future normal costs.
$\dagger$ Includes $0.50 \%$ withdrawal from the Funding Deposit Account.
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## COMMENTS ON DATA

For the valuation, the administrative director of the system furnished a census on magnetic media 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 VIII, there are 4,894 active members in Plan A, of whom, 1,935 members, including 247 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 3,177 former Plan A members or their beneficiaries are receiving retirement benefits. An additional 2,851 former members of Plan A have contributions remaining on deposit with the system. This includes 184 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 XVII. There are 2,168 active members in Plan B, of whom, 803 members, including 88 DROP participants, have vested retirement benefits; 916 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional, 1,244 former members of Plan B have contributions remaining on deposit with the system. Of this number, 74 have vested rights 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 administrative staff 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. For this valuation, the number of such records is de minimis.

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. Except as stated below, 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 $\$ 730,072,543$ as of June 30, 2014. For Plan A, the net investment income for fiscal 2014 measured on a market value basis amounted to $\$ 80,430,073$. Contributions to Plan A for the fiscal year totaled $\$ 51,974,599$; benefits and expenses amounted to \$59,707,770.

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The net market value of Plan B’s assets was $\$ 156,659,396$ as of June 30, 2014. For Plan B, the net investment income for fiscal 2014 measured on a market value basis amounted to $\$ 16,488,707$. Contributions to Plan B for the fiscal year totaled $\$ 12,401,659$; benefits and expenses amounted to \$12,831,470.

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

This valuation is based on the Frozen Attained Age Normal actuarial cost method with the unfunded actuarial accrued liability frozen as of June 30, 1989. Under the provisions of Louisiana R.S. 11:103 the unfunded accrued liability for Plan A, which was determined to be $\$ 48,466,297$ as of June 30, 1989, was amortized over forty years with payments increasing at $4.25 \%$ per year. The unfunded accrued liability for Plan B, which was determined to be $\$ 9,853,175$ as of June 30, 1989, was amortized over forty years with payments decreasing at 2\% per year. In Plan A, payroll growth less than $4.25 \%$ per year will increase future amortization payments as a percent of payroll. In Plan B, any payroll growth or payroll decline less than $2 \%$ per year will reduce future amortization payments as a percent of payroll. Under the Frozen Attained Age Normal 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 addition, changes in benefits and assumptions are also spread over future normal costs.

Prior to the June 30, 2009 valuation, in any year in which the net direct employer contribution was set above the actuarially required employer contribution rate, excess funds collected, if any, were used to reduce the frozen unfunded actuarial accrued liability. In Plan B, the board elected to freeze the employer contribution rate in fiscal 2001. As a result of the additional contributions generated by this freeze in rates, the unfunded accrued liability will be fully amortized by June 30, 2023. Effective with the June 30, 2009 valuation, any excess funds collected as a result of a freeze in employer contributions are credited to the Funding Deposit Account. Funds deposited into the Funding Deposit Account can be used to reduce the unfunded accrued liability, reduce future normal costs, or offset net direct employer contributions as determined by the board of trustees.

The current year actuarial assumptions utilized for the report are outlined on pages sixty-three through sixty-seven. These assumptions (excluding mortality) are based on the results of an actuarial experience study for the period July 1, 2006 - June 30, 2010, unless otherwise specified in this report. In cases where benefit structures were changed after the study period, assumptions were based on estimates of future experience. In the case of mortality, data for Plan A and Plan B were combined. The data was collected over the period July 1, 2004 through June 30, 2009. The data was then assigned credibility weighting and combined with a standard table to produce current levels of mortality. This mortality was then projected forward to a period equivalent to the estimated duration of the fund's liabilities. Annuity values calculated based on this mortality were compared to those produced by using standard tables. The RP-2000 Employee Mortality Table was selected for active
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members and the RP-2000 Healthy Annuitant Mortality Table was selected for healthy annuitants and beneficiaries. The result of the procedure indicated that these tables would produce liability values approximating the appropriate generational mortality tables. The RP-2000 Disabled Lives Mortality Table was selected for disabled annuitants.

In determining the valuation interest rate, consideration was given to several factors. First consensus estimates of rates of return, standard deviations, and correlation coefficients for asset classes derived from various asset consulting firms were developed. In addition, the report of the Meketa Investment Group on 30 year Return Projections was considered. These factors were used to derive forward estimates of the Fund's portfolio earnings rate. The rate of $7.75 \%$ was selected by the Board for this report.

The salary increase rate for the report is $5.75 \%$ based on forward estimates of future increases in pay resulting from three sources; inflation, merit, and productivity. An inflation rate of $3.00 \%$ was implied in both the assumed rate of return and rate of salary increases.

With the exception of a modification to the plan design software model, all assumptions used are the same as those used for the prior year report. All assumptions are based on estimates 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 contribution levels. Such differences will be revealed in future actuarial valuations. The net effect of the changes in software was to reduce the normal cost accrual rate by $0.5128 \%$ in Plan A and $0.2434 \%$ in Plan B.

## CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2014 Regular Session of the Louisiana Legislature:

ACT 142 amends the statutes relative to the Municipal Employees’ Retirement System to make certain technical changes and to remove the expense fund from the list of approved asset credited funds. This results in a change in the method of allocating expenses for the system between Plans A and $B$.

ACT 225 amends R.S. 11:1821(B) and (G) relative to the board of trustees of the Municipal Employees’ Retirement System. Elections to fill the trustee positions of members on the board in 2016, 2017, and 2020 will be active elected officials and elections in 2015, 2018, and 2019 will be active not elected officials. No participating employer can have more than two elected trustees serving at the same time. Trustees elected may continue to serve their full term regardless of a change in employment which qualified them for such position.

ACT 320 amends R.S. 11:11732(13) and (14) and enacts R.S. 11:1751(F), relative to the Municipal Employees’ Retirement System. The definition of the word "employee" was expanded to include persons who receive earnings from more than one participating employer of which one is the Vinton Public Power Authority. The act also states that any person who qualifies as an employee will participate in and contribute to the system on all earnings from all participating employers.

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## 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.

| Plan A | Market Value | Actuarial Value |
| :---: | :---: | :---: |
| 2005 | 7.2\% | 9.6\% * |
| 2006 | 8.6\% | 10.7\% |
| 2007 | 18.1\% $\ddagger$ | 10.8\% |
| 2008 | 1.1\% | 9.0\% |
| 2009 | -13.8\% $\ddagger$ | 0.9\% ** |
| 2010 | 11.0\% | 5.9\% |
| 2011 | 10.5\% | 4.2\% |
| 2012 | -4.8\% $\dagger$ | 0.7\% † |
| 2013 | 4.3\% | 0.7\% |
| 2014 | 12.3\% | 5.8\% |


| Plan B | Market Value | Actuarial Value |
| :---: | :---: | :---: |
| 2005 | 7.2\% | 6.4\% |
| 2006 | 8.5\% | 13.7\% |
| 2007 | 17.4\% $\ddagger$ | 10.6\% |
| 2008 | 1.3\% | 8.8\% |
| 2009 | -13.7\% $\ddagger$ | 0.9\% ${ }^{*}$ |
| 2010 | 10.9\% | 5.8\% |
| 2011 | 10.5\% | 4.2\% |
| 2012 | -4.7\% † | 1.0\% $\dagger$ |
| 2013 | 4.1\% | 0.9\% |
| 2014 | 11.7\% | 5.6\% |

* Includes the effect of a change in asset valuation method.
$\ddagger \quad$ Includes the impact of inclusion of the prior period adjustment for investment income as income in fiscal year.
$\dagger \quad$ Based upon asset values which include an unaudited "best estimate" of the value of a receivable related to the FIA Leveraged Fund

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 2014, Plan A earned $\$ 14,010,069$ and Plan B earned $\$ 2,934,917$ of dividends, interest and other recurring income. In addition, Plan A had net realized and unrealized capital gains on investments of $\$ 71,826,925$ while the total of such gains for Plan B amounted to $\$ 14,684,783$. Investment expenses were $\$ 5,406,921$ for Plan A and $\$ 1,130,993$ for Plan B. The geometric mean of the market value rates of return measured over the last ten years was $5.1 \%$ for Plan A and $4.9 \%$ for Plan B. For the last twenty years, the geometric mean returns were $6.4 \%$ for Plan A and $6.3 \%$ for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of $7.75 \%$ used for the prior valuation. This rate is calculated based on the smoothed value of assets subject to constraints as given in Exhibit VI for Plan A and Exhibit XV 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 $7.75 \%$ assumption will reduce future costs; yields below $7.75 \%$ will increase future costs. For Plan A, the net actuarial investment earnings for fiscal 2014 was $\$ 14,184,452$ less than the actuarial assumed earnings rate of $7.75 \%$, and $\$ 3,336,851$ less for Plan B. These actuarial losses increased the normal cost accrual rate by $1.1900 \%$ for Plan A and $0.6748 \%$ 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: 1862(F). In the course of reviewing data for the June 30, 2014 valuation, we found 2 such members of Plan A with Plan B service credit and 36 such members of Plan B with Plan A service (including 35 members who were employed by the City of Leesville which moved from Plan A to Plan B as of July 1, 2013). Based upon a valuation of the liabilities for service in the previous plan, we recommend a transfer of $\$ 536,899$ be made from the Plan A trust to the Plan B trust for fiscal 2014.

## PLAN A - DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member is 48 years old with 10.2 years of service and an annual salary of $\$ 34,298$. The plan's active membership, inclusive of DROP participants, decreased by 45 members during the fiscal year. This includes a transfer of 35 employees of the City of Leesville from membership in Plan A to Plan B. The plan has experienced a decrease in the active plan population of 158 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 no significant shift among the various service groups. The average regular retiree is 70 years old with a monthly benefit of $\$ 1,559$. The number of retirees and beneficiaries receiving benefits from the system increased by 71 during the fiscal year; over the last five years the number of retirees has increased by 316.

Plan liability experience for fiscal 2014 was favorable. Withdrawals and deaths were above projected levels; disabilities were below projected levels. In addition, salary increases were below projected levels. All of these factors generally reduce costs. DROP entries were near projected levels. However, retirements were above projected levels; this would tend to partially offset the plan's positive experience. Plan liability gains decreased the normal cost accrual rate by $0.9582 \%$.

## PLAN B - DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XVII. The average active member is 49 years old with 9.9 years of service and an annual salary of $\$ 31,337$. The plan's active
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membership, inclusive of DROP participants, increased by 40 members during the fiscal year. The plan has experienced a decrease in the active plan population of 101 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 no significant shift in the proportion of the active membership by service group. The average regular retiree is 73 years old with a monthly benefit of $\$ 929$. The number of retirees and beneficiaries receiving benefits from the system increased by 16 during the fiscal year; over the last five years the number of retirees has increased by 83 .

Plan liability experience for fiscal 2014 was favorable. Retirements were below projected levels and salary increases were significantly below projected levels. These factors tend to reduce costs. Withdrawals, and disabilities were at projected levels. DROP entries were significantly above projected levels while retiree deaths were below projected levels. Both of these factors partially offset the plan's positive experience. Plan liability gains decreased the normal cost accrual rate by $0.1401 \%$.

## 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 two cost components, and the actuarially required contributions are based on the sum of these two components plus administrative expenses. These two components are the normal cost and the amortization payment on the unfunded actuarial accrued liability. The normal cost refers to the portion of annual cost based on the salary of active participants. The term unfunded accrued liability (UAL) refers to the excess of the present value of plan benefits over the sum of current assets and future normal costs. Each year the UAL grows with interest and is reduced by payments. Under the funding method used for both plans, changes in plan experience, benefits, or assumptions do not affect the unfunded actuarial accrued liability. These items increase or decrease future normal costs.

In order to establish the actuarially require contribution in any given year, it is necessary to define the assumptions, funding method, and method of amortizing the UAL. Thus, the determination of what contribution is actuarially required depends upon the funding method and amortization schedules employed. Regardless of the method selected, the ultimate cost of 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
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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 2015 as of July 1, 2014 is $\$ 30,894,803$. The amortization payment on the plan's frozen unfunded actuarial accrued liability as of July 1, 2014, is \$6,191,251. 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 15 of Exhibit I the total actuarially required contribution for fiscal 2015 is $\$ 39,623,854$. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for fiscal 2015 is $\$ 33,566,771$. This is $19.48 \%$ of the projected Plan A payroll for fiscal 2015.

Liability and asset experience as well as changes in assumptions and benefits can increase or decrease plan costs. In addition to these factors, any COLA granted in the prior fiscal year would increase required contributions. New entrants to the system can also increase or decrease 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:

| Employer's Normal Cost Accrual Rate - Fiscal 2014 | $21.0398 \%$ |
| :--- | ---: |
| Factors Increasing the Normal Cost Accrual Rate: |  |
| Asset Experience | $1.1900 \%$ |
| Contribution Experience | $0.3893 \%$ |
| Factors Decreasing the Normal Cost Accrual Rate: |  |
| New Members | $1.4022 \%$ |
| Plan Liability Experience | $0.9582 \%$ |
| Software Modifications | $0.5127 \%$ |
| Employer's Normal Cost Accrual Rate - Fiscal 2015 | $19.7460 \%$ |

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 2015 will increase by $0.16 \%$ of payroll. We also estimate the amortization payment on the fund's UAL will increase by $0.16 \%$ of projected 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 2015 for Plan A of 19.48\%; the actual employer contribution rate for fiscal 2015 is 20.75\% of payroll (inclusive of funds from the Funding Deposit Account). R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest $0.25 \%$, hence, after accounting for the anticipated contribution surplus, we are recommending a minimum net direct employer contribution rate for Plan A of $19.25 \%$ for fiscal 2016.

For Plan B, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit X. The normal cost for fiscal 2015 as of July 1, 2014 is $\$ 7,720,629$. The amortization
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payment on the plan's frozen unfunded actuarial accrued liability as of July 1, 2014, is $\$ 554,596$. 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 15 of Exhibit X the total actuarially required contribution for fiscal 2015 is $\$ 9,046,279$. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for fiscal 2015 is $\$ 6,673,361$. This is $9.60 \%$ of the projected Plan B payroll for fiscal 2015.

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

| Employer's Normal Cost Accrual Rate - Fiscal 2014 | $12.4554 \%$ |
| :--- | ---: |
| Factors Increasing the Normal Cost Accrual Rate: |  |
| Asset Experience | $0.6748 \%$ |
| Contribution Experience | $0.1105 \%$ |
| Factors Decreasing the Normal Cost Accrual Rate: |  |
| New Members | $0.5992 \%$ |
| Software Modifications | $0.2433 \%$ |
| Liability Experience | $0.1401 \%$ |
| Employer's Normal Cost Accrual Rate - Fiscal 2015 | $12.2581 \%$ |

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in fiscal 2015 will increase by $0.03 \%$ of payroll. We also estimate that the amortization payment on the fund's UAL will decrease by $0.04 \%$ of projected 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 2015 for Plan B of $9.60 \%$; the actual employer contribution rate for fiscal 2015 is $9.50 \%$ of payroll. R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest $0.25 \%$, hence, after accounting for the anticipated contribution surplus, we are recommending a minimum net direct employer contribution rate for Plan B of $9.50 \%$ for fiscal 2016.

Both Plan A and Plan B have Funding Deposit Account Credit Balances. Since no contribution deposits or withdrawals were made to the accounts during fiscal 2014 the outstanding balances were credited with interest at the valuation interest rate. Pursuant to board action, $\$ 1,722,998$ was withdrawn from the Plan A Funding Deposit Account and $\$ 347,496$ from the Plan B Funding Deposit Account to offset employer contributions for fiscal 2015. Funds in these accounts may be used to reduce the outstanding unfunded accrued liability, reduce the future normal costs or reduce contributions for specified fiscal years.

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.

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

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actuarial value of assets, there will be a corresponding increase (reduction) in the normal cost accrual rate of $0.63 \%$ for Plan A and $0.33 \%$ for Plan B. We have also determined that a $1 \%$ reduction in the valuation interest rate for each Plan would increase the actuarially required contribution rate for fiscal 2014 by $8.91 \%$; for Plan A and $4.94 \%$ in Plan B. Please note that the above results are only intended to serve as an illustration of the impact of a change in the valuation interest rate. Any actual change in the valuation interest rate should only be effected with a review of all other plan assumptions.

We believe that the Board should consider several elements of risk in setting the net direct employer contribution rate for fiscal 2016. First, the Board should consider the likelihood of the system achieving returns below the current assumed rate of return. The ten and twenty year average market rates of return for both Plans A and B shown above in the Asset Experience section are significantly lower than the current assumed rate of return of 7.75\%. The most recent Meketa Investment Group projection of expected 30 year annual nominal returns for the target allocation was $8.3 \%$ prior to adjustment for investment expenses paid by the system. When this expected annual return is reduced for the 2014 annual investment expense as a percentage of assets, approximately $0.75 \%$, the adjusted return is $7.55 \%$ and even this rate does not fully address the expected volatility of returns. Also, in the next few years, the system will face additional pressure on rates of return as it works through the existing deferred losses as detailed on page 26 for Plan A and page 44 for Plan B. These facts reinforce the recommendation that we made in 2012 that the long term rate of return assumption should be decreased to $7.50 \%$. Second, although the system has recently experienced liability gains which helped to offset the impact of investment returns below assumptions, these liability gains have been decreasing. Without liability gains, the required contributions to the plan could increase in the next few years. Finally, as mortality improves within the system, the mortality assumption will have to be strengthened. This too will put pressure on the required contribution rates in the coming years.

In order to address some of these concerns, we recommend that the assumed rate of return be further reduced in the next annual valuation. This will result in an increase in the level of required employer contributions. To mitigate against the expected effect of such a change along with expected strengthening of the mortality assumptions used in the valuation, we recommend that Board strongly consider setting the employer contribution rates for both Plan A and B above the minimum recommended employer contribution rates contained within this report.

In addition to calculating the actuarially required contribution to the fund, we have also calculated the ratio of the system's assets to liabilities. When the market value of assets is divided by the entry age normal accrued liability for the fund the result is $75.45 \%$ for Plan A and $78.42 \%$ for Plan B as of June 30, 2014. This value in isolation does not give a measure of the ability of the fund to pay benefits in the future or indicate that future contributions are likely to be greater or less than current contributions. In addition, the ratio cannot be used to compare the relative strength of different retirement systems. However, the trend of this ratio over time can give some insight into the financial health of the plan. Even in this regard caution is warranted since market fluctuations in asset values and changes in plan assumptions can distort the underlying trends in this value.

## COST OF LIVING INCREASES

During calendar 2014 the actual cost of living (as measured by the US Department of Labor CPI-U) increased by $2.07 \%$. Cost of living provisions for the system are detailed in R.S. 11:1761 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 $2 \%$ of each retiree's original benefit. R.S. 11:246 provides cost of living increases of 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 June $30^{\text {th }}$ 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.

In addition, Act 113 of the 2008 Regular Legislation Session provides for a COLA of 3\% of the normal monthly benefit but not less than $\$ 20$ per month. Although this COLA is permanent, it may only be granted once. This one-time cost of living increase may only be paid from excess interest earnings.

Based upon the irrevocable election of the Board of Trustees to accept the alternative method for determining eligibility to authorize cost of living increases under Act 170 of the 2013 Legislative Session, the ratio of the plan's assets to benefit obligations must meet the criteria established in R.S. 11:243. Under this section, the system would only be authorized to grant a COLA under R. S. 11:241, R.S. 11:246, or R. S. 11: 1761 in fiscal years in which the rate of return on an actuarial basis exceeds the valuation interest rate and one of the following applies:

1. The system has a funded ratio of $90 \%$ or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the most recent fiscal year.
2. The system has a funded ratio of $80 \%$ or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two most recent fiscal years.
3. The system has a funded ratio of $70 \%$ or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the three most recent fiscal years.

We have determined that for fiscal 2014, neither plan had excess interest earnings; hence no cost of living increase is payable to regular retirees.

## Plan A - Components of Present Value of Future Benefits June 30, 2014



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 - Frozen Unfunded Accrued Liability



## Plan A - Market Value of Assets vs. EAN Accrued Liability



Plan A - Historical Asset Yield

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## Plan A - Net Non-Investment Income



## Plan A - Total Income vs. Expenses

(Based on Market Value of Assets)



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


# Plan B - Components of Present Value of Future Benefits June 30, 2014 


$\square$ Present Value of Future Employer Normal Cost
-Unfunded Accrued Liability

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


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


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## Plan B - Components of Actuarial Funding



## Plan B - Frozen Unfunded Accrued Liability



Plan B
Market Value of Assets vs. EAN Accrued Liability


Plan B - Historical Asset Yield


## Plan B - Net Non-Investment Income



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



## EXHIBIT I PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits ..... \$ 1,149,834,399
2. Funding Deposit Account Credit Balance ..... 8,930,139
3. Frozen Unfunded Actuarial Accrued Liability ..... 74,454,702
4. Actuarial Value of Assets ..... 751,235,484
5. Present Value of Future Employee Contributions ..... 97,716,362
6. Present Value of Future Employer Normal Costs (1+2-3-4-5) ..... 235,357,990
7. Present Value of Future Salaries ..... \$ 1,191,928,762
8. Employer Normal Cost Accrual Rate (5 $\div 6$ ) ..... 19.745978\%
9. Projected Fiscal 2015 Salary for Current Membership ..... \$ 156,461,247
10. Employer Normal Cost as of July 1, 2014 (7x 8) ..... \$ 30,894,803
11. Amortization Payment on Frozen Unfunded Accrued Liability with Payments increasing at $4.25 \%$ per year ..... \$ 6,191,251
12. Total Employer Normal Cost \& Amortization Payment $(10+11)$ ..... \$ ..... 37,086,054
13. Employer Normal Cost and Amortization Payment Interest Adjusted for Midyear Payment ..... \$ ..... 38,496,324
14. Estimated Administrative Cost for Fiscal 2015 ..... \$
1,127,530
15. Gross Employer Actuarially Required Contribution for Fiscal 2015 (13 + 14) ..... \$ ..... 39,623,854
16. Projected Ad Valorem Tax Contributions for Fiscal 2015 ..... \$ ..... 5,926,948
17. Projected Revenue Sharing Funds for Fiscal 2015 ..... \$ ..... 130,135
18. Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2015 (15-16-17) ..... \$ ..... 33,566,771
19. Projected Payroll for Fiscal 2015 ..... \$ 172,299,839
20. Employers' Minimum Net Direct Actuarially Required Contribution as a \% of Projected Payroll for Fiscal $2015(18 \div 19)$ ..... 19.48\%
21. Actual Employer Contribution Rate for 2015 (includes FDA Contribution) ..... 20.75\%
22. Contribution Shortfall (Excess) as a Percentage of Payroll (20-21) ..... (1.27\%)
23. Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess) ..... (0.17\%)
24. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2016 (20+23, Rounded to nearest 0.25\%) ..... 19.25\%

## EXHIBIT II <br> PLAN A: PRESENT VALUE OF FUTURE BENEFITS

## PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits ..... \$ 603,601,733
Survivor Benefits. ..... 11,061,134
Disability Benefits ..... 7,421,662
Vested Termination Benefits ..... 12,267,153
Refunds of Contributions ..... 19,342,507
TOTAL Present Value of Future Benefits for Active Members ..... \$
653,694,189
PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:
Terminated Vested Members Due Benefits at Retirement. ..... \$ 15,536,533
Terminated Members with ReciprocalsDue Benefits at Retirement963,820
Terminated Members Due a Refund ..... 2,813,255
TOTAL Present Value of Future Benefits for Terminated Members

$\qquad$ ..... \$
19,313,608
PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:
Regular Retirees
Maximum. ..... \$ 175,795,795
Option 2 ..... 160,828,048
Option 3 ..... 66,889,085
Option 4 ..... 2,040,827
TOTAL Regular Retirees ..... \$ 405,553,755
Disability Retirees ..... 18,150,437
Survivors \& Widows ..... 48,442,906
Reserve for Accrued Retiree DROP Account Balances ..... 4,679,504
TOTAL Present Value of Future Benefits for Retirees \& Survivors ..... \$ ..... 476,826,602
TOTAL Present Value of Future Benefits ..... \$ 1,149,834,399

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

## CURRENT ASSETS:

Cash in Banks ..... \$ 11,948,655
Contributions and Taxes Receivable. ..... 3,263,332
Accrued Interest and Dividends ..... 5,641,479
Investments Receivable ..... 373,272
Prepaid Expenses ..... 310,405
Due (To) From Other Funds ..... $(484,907)$
Other Current Assets ..... 151,445
TOTAL CURRENT ASSETS ..... \$
Property Plant \& Equipment ..... \$ ..... 599,12221,203,681
INVESTMENTS:
Equities ..... \$ 297,957,526
Real Estate ..... 112,145,032
Tactical Allocation ..... 105,795,843
Alternative Investments ..... 92,763,289
Fixed Income ..... 67,420,848
Cash Equivalents ..... 44,333,947
TOTAL INVESTMENTS ..... \$
720,416,485
TOTAL ASSETS ..... \$742,219,288
CURRENT LIABILITIES:
Accounts Payable ..... \$ 1,053,139
Refunds Payable. ..... 460,902
Investments Payable ..... 88,557
Other Current Liabilities ..... 1,641,266
TOTAL CURRENT LIABILITIES ..... \$3,243,864
OTHER CONTROLLING INTEREST ..... \$ ..... $(8,902,881)$
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 2014 ..... \$ ..... 29,763,811
Fiscal year 2013 ..... $(86,502,955)$
Fiscal year 2011 ..... 15,459,113
Fiscal year 2010 ..... 16,842,738
Total for five years ..... \$ ..... $(46,287,263)$
Deferral of excess (shortfall) of invested income:
Fiscal year 2014 (80\%) ..... \$ ..... 23,811,049
Fiscal year 2013 (60\%) ..... $(13,109,982)$
Fiscal year 2012 (40\%) ..... $(34,601,182)$
Fiscal year 2011 (20\%) ..... 3,091,823
Fiscal year 2010 ( 0\%) ..... 0
Total deferred for year ..... \$ ..... $(20,808,292)$
Market value of plan net assets, end of year ..... \$ ..... 730,072,543
Preliminary actuarial value of plan assets, end of year ..... \$ ..... 750,880,835
Actuarial value of assets corridor
$85 \%$ of market value, end of year ..... \$
$115 \%$ of market value, end of year ..... \$ 839,583,424
Allocated Share of the Expense Fund ..... \$ ..... 354,649
Final actuarial value of plan net assets, end of year\$751,235,484
EXHIBIT IVPLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS
Employee Contributions to the Annuity Savings Fund ..... \$Employer Normal Contributions to the Pension Accumulation Fund235,357,990
Employer Amortization Payments to the Pension Accumulation Fund ..... 74,454,702
Funding Deposit Account Credit Balance ..... (8,930,139)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS ..... \$ ..... 398,598,915
EXHIBIT V
PLAN A: CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY
Prior Year Frozen Unfunded Accrued Liability ..... \$ ..... 75,038,341
Interest on Frozen Unfunded Accrued Liability. ..... \$ 5,815,471
Employer Normal Cost for Prior Year. ..... 32,965,067
Interest on the Normal Cost. ..... 2,554,793
Administrative Expenses ..... 1,330,103
Interest on Expenses ..... 50,580
TOTAL Interest Adjusted Cost Elements. ..... \$ ..... 42,716,014
Direct Employer Contributions ..... \$ 31,501,412
Interest on Employer Contributions. ..... 1,197,903
Ad Valorem Taxes and Revenue Sharing ..... 5,741,515
Interest on Ad Valorem Taxes and Revenue Sharing Funds ..... 218,332
Contribution Shortfall (Excess) ..... 4,306,720
Interest on Contribution Shortfall (Excess) ..... 333,771
TOTAL Interest Adjusted Employer Contributions ..... \$ ..... 43,299,653
NET Change in Frozen Unfunded Accrued Liability. ..... \$ ..... $(\$ 583,639)$
CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY ..... \$ ..... 74,454,702

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

Actuarial Value of Assets (June 30, 2013) ................................................................... \$ 717,816,409

## INCOME:

Employer Contributions ..... \$ 31,501,412
Member Contributions ..... 14,768,535
Ad Valorem Taxes and Revenue Sharing ..... 5,741,515Irregular Contributions$(36,863)$
Total Contributions ..... \$ ..... 51,974,599
Net Appreciation in Fair Value of Investments \$ 71,224,905
Alternative Investment Income ..... 12,019,054
Interest \& Dividend Income ..... 1,787,606
Net Loss Attributable to Controlling Interests ..... 602,020
Miscellaneous Income ..... 203,969 Investment Expense ..... (5,664,041)
Net Investment Income ..... \$ ..... 80,173,513TOTAL Income\$132,148,112
EXPENSES:
Retirement Benefits ..... \$ 50,055,134
DROP Disbursements ..... 5,177,295
Refunds of Contributions ..... 3,894,171
Funds Transferred to another System ..... 1,125,551
Transferred from Plan B ..... $(1,874,484)$
Administrative Expenses ..... 1,097,827
TOTAL Expenses

$\qquad$ ..... \$ 59,475,494
Net Market Value Income for Fiscal 2014 (Income - Expenses) ..... \$ ..... 72,672,618
Unadjusted Fund Balance as of June 30, 2014
(Fund Balance Previous Year + Net Income). ..... \$ 790,489,027
Adjustment for Change in Allocated Expense Fund Balance ..... \$ ..... $(232,279)$
Adjustment for Actuarial Smoothing. ..... \$ ..... $(39,021,264)$
Actuarial Value of Assets: (June 30, 2014) ..... \$ 751,235,484

# EXHIBIT VII - Schedule A <br> PLAN A: PENSION BENEFIT OBLIGATION 

Present Value of Credited Projected Benefits Payable to Current Employees. ..... \$ ..... 459,647,722
Present Value of Benefits Payable to Terminated Employees ..... 19,313,608
Present Value of Benefits Payable to Current Retirees and Beneficiaries ..... 476,826,602
TOTAL PENSION BENEFIT OBLIGATION ..... \$ ..... 955,787,932
NET ACTUARIAL VALUE OF ASSETS ..... \$ ..... 751,235,484Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.78.60\%
EXHIBIT VII - Schedule B PLAN A: ENTRY AGE NORMAL ACCRUED LIABILITIES
Accrued Liability for Active Employees ..... \$ ..... 471,443,926
Accrued Liability for Terminated Employees ..... 19,313,608
Accrued Liability for Current Retirees and Beneficiaries ..... 476,826,602
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY . ..... \$ ..... 967,584,136
NET MARKET VALUE OF ASSETS ..... \$ ..... 730,072,543
Ratio of Net Market Value of Assets to Entry Age Normal Accrued Liability ..... 75.45\%

## EXHIBIT VIII CENSUS DATA - PLAN A

|  | Active | Terminated with Funds on Deposit | DROP | Retired | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number of members as of June 30, 2013 | 4,685 | 2,865 | 254 | 3,106 | 10,910 |
| Additions to Census <br> Initial membership <br> Omitted in error last year <br> Death of another member <br> Adjustment for multiple records | 622 | 34 |  | (31) <br> 3 | $\begin{aligned} & 659 \\ & (31) \end{aligned}$ |
| 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 | (113) <br> (95) <br> (84) <br> 23 <br> 12 <br> 44 | 113 <br> (23) <br> (14) <br> 1 | 84 <br> (46) <br> (44) | 95 14 46 | 13 |
| Eliminated from Census <br> Refund of contributions <br> Deaths <br> Included in error last year <br> Adjustment for multiple records | (429) <br> (17) <br> (1) | (123) <br> (2) | (1) | (59) | (552) <br> (79) <br> (1) |
| Number of members as of June 30, 2014 | 4,647 | 2,851 | 247 | 3,177 | 10,922 |

PLAN A - ACTIVES CENSUS BY AGE:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Salary | Sotal |
| ---: | :---: | :---: | :---: | :---: | ---: |
| $16-20$ | 16 | 4 | 20 | 21,243 | 424,859 |
| $21-25$ | 182 | 70 | 252 | 23,138 | $5,830,718$ |
| $26-30$ | 237 | 256 | 108 | 345 | 27,456 |

THE ACTIVE CENSUS INCLUDES 1,935 ACTIVES WITH VESTED BENEFITS, INCLUDING 247 DROP PARTICIPANTS AND 194 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

| Age | Number Male | Number <br> Female | Total Number | Average Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $31-35$ | 2 | 0 | 2 | 12,452 | 24,903 |
| $36-40$ | 4 | 2 | 6 | 10,790 | 64,738 |
| $41-45$ | 9 | 2 | 11 | 14,378 | 158,163 |
| $46-50$ | 16 | 18 | 34 | 13,283 | 451,619 |
| $51-55$ | 30 | 27 | 57 | 13,854 | 789,652 |
| $56-60$ | 37 | 26 | 63 | 14,776 | 930,905 |
| $61-65$ | 4 | 1 | 5 | 9,858 | 49,290 |
| 66-70 | 1 | 1 | 2 | 2,955 | 5,909 |
| $71-75$ | 2 | 2 | 4 | 3,319 | 13,277 |
| TOTAL | 105 | 79 | 184 | 13,524 | 2,488,456 |

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

| Contributions From |  | Ranging |
| :---: | :---: | :---: |
|  |  | To |
| 0 | - | 99 |
| 100 | - | 499 |
| 500 | - | 999 |
| 1000 | - | 1999 |
| 2000 | - | 4999 |
| 5000 | - | 9999 |
| 10000 | - | 19999 |
| 20000 | - | 99999 |
|  |  | TAL |


| Number | Total |
| :---: | :---: |
| 1,836 | 102,753 |
| 355 | 88,853 |
| 125 | 86,566 |
| 105 | 152,296 |
| 98 | 311,811 |
| 70 | 495,224 |
| 53 | 750,662 |
| 25 | 776,635 |
| 2,667 | $2,764,800$ |

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PLAN A - REGULAR RETIREES:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | ---: |
| $46-50$ | 14 | 10 |  | 24 | 25,568 |

PLAN A - DISABILITY RETIREES:

| Age | Number <br> Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total <br> Benefit |
| ---: | :---: | :---: | :---: | ---: | ---: |
| $41-45$ | 4 | 0 |  | 4 | 12,382 |

PLAN A - SURVIVORS:

| Age | Number Male | Number <br> Female | Total Number | Average Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $0-25$ | 1 | 6 | 7 | 8,811 | 61,678 |
| $26-30$ | 1 | 1 | 2 | 8,688 | 17,375 |
| $31-35$ | 0 | 2 | 2 | 7,720 | 15,439 |
| $36-40$ | 3 | 0 | 3 | 4, 342 | 13,026 |
| $41-45$ | 1 | 4 | 5 | 6,350 | 31,749 |
| 46-50 | 5 | 15 | 20 | 6,300 | 126,009 |
| $51-55$ | 6 | 26 | 32 | 8,507 | 272,220 |
| $56-60$ | 3 | 36 | 39 | 10,512 | 409,960 |
| $61-65$ | 7 | 56 | 63 | 10,316 | 649,915 |
| $66-70$ | 7 | 67 | 74 | 10,308 | 762,767 |
| $71-75$ | 5 | 111 | 116 | 10,117 | 1,173,556 |
| $76-80$ | 6 | 103 | 109 | 9,535 | 1,039,348 |
| $81-85$ | 2 | 107 | 109 | 8, 840 | 963,552 |
| $86-90$ | 3 | 66 | 69 | 7,683 | 530,118 |
| 91-99 | 1 | 27 | 28 | 7,672 | 214,810 |
| TOTAL | 51 | 627 | 678 | 9,265 | 6,281,522 |


| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-20$ | 15 | 4 | 1 |  |  |  |  |  |  |  |  | 20 |
| 21-25 | 120 | 57 | 40 | 16 | 9 | 10 |  |  |  |  |  | 252 |
| 26-30 | 86 | 65 | 54 | 46 | 19 | 71 | 4 |  |  |  |  | 345 |
| $31-35$ | 84 | 58 | 37 | 39 | 29 | 89 | 49 | 1 |  |  |  | 386 |
| $36-40$ | 57 | 48 | 31 | 35 | 16 | 112 | 54 | 44 | 3 |  |  | 400 |
| 41-45 | 69 | 39 | 33 | 33 | 21 | 100 | 58 | 71 | 77 | 3 |  | 504 |
| 46-50 | 84 | 57 | 51 | 35 | 25 | 128 | 66 | 94 | 92 | 50 | 8 | 690 |
| 51-55 | 73 | 65 | 44 | 45 | 34 | 144 | 97 | 86 | 96 | 63 | 65 | 812 |
| $56-60$ | 46 | 42 | 48 | 29 | 22 | 129 | 94 | 106 | 97 | 55 | 52 | 720 |
| 61-65 | 18 | 23 | 16 | 23 | 14 | 111 | 70 | 58 | 67 | 42 | 27 | 469 |
| 66-70 | 6 | 3 | 3 | 8 | 6 | 42 | 36 | 26 | 16 | 19 | 14 | 179 |
| 71 \& Over | 4 | 2 | 7 | 6 | 3 | 20 | 19 | 16 | 14 | 10 | 16 | 117 |
| Totals | 662 | 463 | 365 | 315 | 198 | 956 | 547 | 502 | 462 | 242 | 182 | 4894 |


| Attained Ages | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \& Over | Average Salary |
| $0-20$ | 20,788 | 22,886 | 21,501 |  |  |  |  |  |  |  |  | 21,243 |
| $21-25$ | 22,274 | 22,417 | 25,184 | 22,191 | 27,369 | 27,140 |  |  |  |  |  | 23,138 |
| $26-30$ | 23,261 | 27,535 | 28,931 | 28,925 | 31, 022 | 29,253 | 30,775 |  |  |  |  | 27,456 |
| $31-35$ | 24,132 | 29,090 | 35,848 | 30,551 | 27,627 | 34,188 | 37,647 | 28,891 |  |  |  | 30,958 |
| $36-40$ | 26,722 | 26,712 | 28,371 | 31,536 | 31,649 | 33,534 | 34,405 | 36,332 | 49,818 |  |  | 31,642 |
| $41-45$ | 26,260 | 26,971 | 28,182 | 29,358 | 27,197 | 33,744 | 35,367 | 41,596 | 43,250 | 47,461 |  | 34,098 |
| $46-50$ | 24,708 | 26,154 | 28,253 | 36,935 | 31,260 | 31,255 | 34,698 | 39,186 | 45,886 | 52,022 | 45,703 | 35,136 |
| 51-55 | 25,924 | 29,272 | 26,615 | 36,562 | 28,972 | 33,489 | 35,503 | 37,781 | 42,164 | 49,959 | 50,857 | 36,469 |
| $56-60$ | 28,753 | 25,659 | 30,301 | 29,477 | 32,499 | 32,949 | 34,777 | 37,998 | 42,368 | 50,573 | 54,853 | 37,105 |
| 61-65 | 28,364 | 29,869 | 31,184 | 33,781 | 36,432 | 36,587 | 33,268 | 39,375 | 47,804 | 49,588 | 50,588 | 39,037 |
| 66-70 | 36,023 | 20,164 | 25,688 | 40,993 | 43,537 | 35,147 | 44,660 | 43, 014 | 40,332 | 46,764 | 59,000 | 41,927 |
| 71 \& Over | 40,288 | 36,884 | 30,736 | 32,111 | 22,315 | 28,249 | 34,414 | 28,539 | 38,753 | 32,447 | 43,450 | 33,738 |
| Average | 24,963 | 26,939 | 28,999 | 31,873 | 30,476 | 33,156 | 35,594 | 38,645 | 43,830 | 49,455 | 51,708 | 34,298 |



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PLAN A - ACTIVE MEMBERS:
Completed Years of Service


Completed Years of Service
PLAN A - AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

$$
25-29
$$

$$
30 \& \text { Over }
$$

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& \dot{\sigma} \\
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\end{aligned}
$$

PLAN A－TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT：

| Attained Ages | Years Until Retirement Eligibility |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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 |
| $36-40$ |  |  |  |  |  |  |  |  | 6 |  |  | 6 |
| 41－45 |  |  |  |  |  |  |  | 11 |  |  |  | 11 |
| 46－50 |  |  |  |  |  |  | 34 |  |  |  |  | 34 |
| 51－55 | 1 |  |  |  |  | 56 |  |  |  |  |  | 57 |
| 56－60 | 15 | 10 | 10 | 15 | 13 |  |  |  |  |  |  | 63 |
| 61－65 | 5 |  |  |  |  |  |  |  |  |  |  | 5 |
| 66－70 | 2 |  |  |  |  |  |  |  |  |  |  | 2 |
| 71 － 75 | 4 |  |  |  |  |  |  |  |  |  |  | 4 |
| 76 \＆Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Totals | 27 | 10 | 10 | 15 | 13 | 56 | 34 | 11 | 6 | 2 | 0 | 184 |

Years Until Retirement Eligibility
PLAN A－AVERAGE ANNUAL BENEFITS OF TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT：
 Average





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G．S．CURRAN \＆COMPANY，LTD．
SERVICE RETIREES:
Completed Years Since Retirement



| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \& Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-50$ | 28,900 | 22,044 | 29,100 | 23,815 | 23,764 | 25,431 |  |  |  |  |  | 25,568 |
| $51-55$ | 28,613 | 27,593 | 30,438 | 29,007 | 21,745 | 21,858 | 16,036 |  |  |  |  | 24,746 |
| $56-60$ | 33,480 | 35,441 | 32,586 | 26,317 | 33,697 | 22,968 | 20,990 |  | 8,000 |  |  | 27,563 |
| 61-65 | 22,783 | 24,957 | 23,122 | 22,654 | 19,813 | 24,414 | 23,250 | 22,828 |  | 7,344 |  | 23,354 |
| $66-70$ | 14,909 | 20,115 | 18,090 | 13,795 | 19,498 | 16,970 | 21,077 | 24,866 | 26,401 | 6,109 |  | 17,950 |
| $71-75$ | 15,890 | 14,557 | 15,309 | 13,511 | 15,696 | 13,953 | 15,732 | 22,443 | 22,952 | 9,599 | 7,680 | 16,189 |
| $76-80$ | 2,787 | 25,327 | 11,944 | 17,881 | 16,187 | 13,446 | 11,898 | 14,678 | 21,646 | 24,056 | 12,725 | 15,387 |
| 81-85 | 7,891 | 13,482 | 7,548 | 9,723 | 13,414 | 7,595 | 10,119 | 12,222 | 12,405 | 18,855 | 21,494 | 12,447 |
| 86-90 |  |  |  |  |  | 5,068 | 8,955 | 12,732 | 13,348 | 11,713 | 17,942 | 12,256 |
| 91 \& Over |  |  |  | 2,485 |  | 9,345 | 12,750 | 7,496 | 9,443 | 10,523 | 10,038 | 10,069 |
| Average | 24,299 | 24,913 | 22,286 | 19,634 | 21,562 | 18,206 | 16,575 | 16,269 | 16,330 | 15,404 | 13,540 | 18,712 |

PLAN A - DISABILITY RETIREES:

Completed Years Since Retirement

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-40$ |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $41-45$ |  |  |  | 16,643 | 12,839 |  | 8,496 | 11,550 |  |  |  | 12,382 |
| $46-50$ |  | 16,685 | 10,663 | 17,689 |  | 15,381 |  | 14,652 | 8,268 |  |  | 14,387 |
| $51-55$ | 12,816 | 17,925 | 15,094 | 19,353 | 12,106 | 16,202 | 8,945 | 7,803 | 8,158 | 2,753 |  | 12,957 |
| $56-60$ | 12,533 | 10,292 | 15,123 |  | 8, 036 | 14,235 | 11,413 | 9,124 | 13,274 | 3,946 |  | 11,809 |
| 61-65 | 7,567 |  | 17,537 | 16,754 | 10,582 | 10,573 | 9,493 | 11,253 | 9,959 | 1,344 |  | 10,840 |
| $66-70$ |  | 6,473 |  |  | 9,951 | 9,135 | 8,565 | 8,759 | 14,519 | 8,115 | 3,154 | 9,913 |
| $71-75$ |  | 8,368 |  |  |  | 5,106 | 7,205 | 8,772 | 11,998 |  | 5,876 | 8,489 |
| $76-80$ |  | 8,244 |  |  |  |  | 7,267 |  | 6,977 |  | 9,154 | 7,480 |
| $81-85$ |  |  |  |  |  |  |  |  | 8,653 |  | 10,257 | 9,054 |
| $86-90$ |  |  |  |  |  |  |  |  | 5,699 |  |  | 5,699 |
| 91 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Average | 11,653 | 10,859 | 14,910 | 17,614 | 10,703 | 12,315 | 9,496 | 9,972 | 10,829 | 4,040 | 6,319 | 10,987 |

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

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \& Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-20$ | 2 | 1 | 1 |  |  | 1 | 2 |  |  |  |  | 7 |
| $21-25$ |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $26-30$ |  |  |  |  | 1 |  | 1 |  |  |  |  | 2 |
| $31-35$ | 1 |  |  |  | 1 |  |  |  |  |  |  | 2 |
| $36-40$ |  |  |  |  | 1 |  | 2 |  |  |  |  | 3 |
| $41-45$ |  | 1 |  |  |  |  | 3 | 1 |  |  |  | 5 |
| $46-50$ |  |  |  | 1 | 2 | 5 | 4 | 2 | 1 | 1 | 4 | 20 |
| $51-55$ |  |  | 3 | 4 |  | 7 | 9 | 2 | 6 | 1 |  | 32 |
| $56-60$ | 2 | 1 | 1 | 1 | 2 | 9 | 8 | 8 | 4 | 3 |  | 39 |
| 61-65 |  | 2 | 3 | 1 | 2 | 16 | 13 | 11 | 8 | 7 |  | 63 |
| 66-70 | 2 |  |  | 2 | 1 | 19 | 15 | 18 | 9 | 8 |  | 74 |
| $71-75$ | 1 |  |  | 2 |  | 16 | 29 | 29 | 21 | 12 | 6 | 116 |
| $76-80$ |  |  |  |  | 1 | 10 | 15 | 27 | 35 | 14 | 7 | 109 |
| $81-85$ |  |  |  |  |  | 3 | 13 | 13 | 28 | 33 | 19 | 109 |
| $86-90$ |  |  |  | 2 |  | 1 | 4 | 5 | 13 | 24 | 20 | 69 |
| 91 \& Over |  |  |  | 1 |  |  |  |  | 2 | 5 | 20 | 28 |
| Totals | 8 | 5 | 8 | 14 | 11 | 87 | 118 | 116 | 127 | 108 | 76 | 678 |

Completed Years Since Retirement

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-20$ | 12,170 | 9,315 | 11,084 |  |  | 5,620 | 5,660 |  |  |  |  | 8,811 |
| $21-25$ |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $26-30$ |  |  |  |  | 7,577 |  | 9,798 |  |  |  |  | 8,687 |
| $31-35$ | 7,862 |  |  |  | 7,577 |  |  |  |  |  |  | 7,720 |
| $36-40$ |  |  |  |  | 6,127 |  | 3,449 |  |  |  |  | 4,342 |
| 41-45 |  | 3,997 |  |  |  |  | 6,832 | 7,255 |  |  |  | 6,350 |
| $46-50$ |  |  |  | 5,202 | 9,806 | 8,786 | 8, 032 | 6,574 | 2,774 | 1,900 | 1,828 | 6,300 |
| 51-55 |  |  | 12,319 | 12,484 |  | 8,795 | 7,878 | 8,146 | 5,251 | 5,066 |  | 8,507 |
| 56-60 | 22,160 | 23,479 | 6,830 | 32,369 | 8,007 | 7,515 | 16,427 | 6,786 | 5,538 | 3,822 |  | 10,512 |
| 61-65 |  | 8,324 | 17,959 | 25,698 | 17,182 | 12,600 | 11,735 | 8,697 | 5,439 | 3,715 |  | 10,316 |
| 66-70 | 11,046 |  |  | 8,983 | 8,723 | 11,101 | 12,964 | 11,350 | 6,356 | 5,889 |  | 10,308 |
| $71-75$ | 46,965 |  |  | 10,698 |  | 10,355 | 11,857 | 10,676 | 8,105 | 6,890 | 5,532 | 10,117 |
| $76-80$ |  |  |  |  | 9,167 | 7,757 | 8,798 | 9,103 | 10,575 | 10,741 | 7,767 | 9,535 |
| 81-85 |  |  |  |  |  | 9,704 | 13,333 | 7,030 | 7,859 | 9,767 | 6,703 | 8, 840 |
| 86-90 |  |  |  | 4,046 |  | 29,297 | 5,811 | 10,389 | 7,743 | 8,591 | 5,535 | 7,683 |
| 91 \& Over |  |  |  | 7,469 |  |  |  |  | 11,246 | 6,814 | 7,539 | 7,672 |
| Average | 18,197 | 10,688 | 13,593 | 12,009 | 9,924 | 10,263 | 11,037 | 9,394 | 8,194 | 8,215 | 6,365 | 9,265 |

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

|  |  | Fiscal 2014 |  | Fiscal 2013 |  | Fiscal 2012 |  | Fiscal 2011 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of Active Members |  | 4,894 |  | 4,939 |  | 5,021 |  | 5,029 |
| Number of Retirees \& Survivors |  | 3,177 |  | 3,106 |  | 3,040 |  | 3,001 |
| Number of Terminated Due Deferred Benefits |  | 184 |  | 193 |  | 181 |  | 174 |
| Number Terminated Due Refunds |  | 2,667 |  | 2,672 |  | 2,632 |  | 2,594 |
| Active Lives Payroll | \$ | 167,852,836 | \$ | 167,422,222 | \$ | 167,511,550 | \$ | 164,262,655 |
| Retiree Benefits in Payment | \$ | 51,636,071 | \$ | 48,994,132 | \$ | 46,224,138 | \$ | 44,218,709 |
| Market Value of Assets | \$ | 730,072,543 | \$ | 657,723,192 | \$ | 639,209,518 | \$ | 679,285,361 |
| Actuarial Value of Assets | \$ | 751,235,484 | \$ | 717,816,409 | \$ | 721,475,280 | \$ | 723,942,801 |
| Actuarial Accrued Liability (EAN) | \$ | 967,584,136 | \$ | 948,970,683 | \$ | 925,638,084 | \$ | 903,431,729 |
| Ratio of MVA to EAN Accrued Liability |  | 75.45\% |  | 69.31\% |  | 69.06\% |  | 75.19\% |
| Unfunded Actuarial Accrued Liability | \$ | 74,454,702 | \$ | 75,038,341 | \$ | 75,337,890 | \$ | 75,313,546 |
| Present Value of Future Employer Normal Cost | \$ | 235,357,990 | \$ | 249,506,497 | \$ | 225,090,618 | \$ | 201,003,138 |
| Present Value of Future Employee Contrib. | \$ | 97,716,362 | \$ | 97,624,041 | \$ | 95,445,659 | \$ | 92,535,571 |
| Funding Deposit Account Credit Balance | \$ | 8,930,139 | \$ | 8,287,832 | \$ | 7,691,723 | \$ | 7,121,966 |
| Present Value of Future Benefits | \$ | 1,149,834,399 | \$ | 1,131,697,456 | \$ | 1,109,657,724 | \$ | 1,085,673,090 |


| Fiscal 2015 | Fiscal 2014 | Fiscal 2013 | Fiscal 2012 |
| :---: | :---: | :---: | :---: |
| $9.50 \%$ | $9.50 \%$ | $9.25 \%$ | $9.25 \%$ |
| $3.52 \%$ | $3.36 \%$ | $3.13 \%$ | $3.09 \%$ |
| $19.48 \%$ | $20.62 \%$ | $18.67 \%$ | $17.08 \%$ |
| $20.75 \%$ | $\dagger$ | $18.75 \%$ | $17.00 \%$ |

$\dagger \quad$ Includes 1\% from Funding Deposit Account

|  | Fiscal 2010 |  | Fiscal 2009 |  | Fiscal 2008 |  | Fiscal 2007 |  | Fiscal 2006 |  | Fiscal 2005 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,068 |  | 5,052 |  | 5,030 |  | 4,965 |  | 5,109 |  | 5,289 |
|  | 2,907 |  | 2,861 |  | 2,794 |  | 2,721 |  | 2,588 |  | 2,512 |
|  | 183 |  | 172 |  | 184 |  | 209 |  | 179 |  | 186 |
|  | 2,590 |  | 2,596 |  | 2,561 |  | 2,553 |  | 2,148 |  | 2,263 |
| \$ | 162,546,523 | \$ | 157,082,727 | \$ | 148,644,512 | \$ | 141,232,448 | \$ | 140,773,796 | \$ | 140,020,164 |
| \$ | 41,527,971 | \$ | 39,834,118 | \$ | 37,650,335 | \$ | 34,978,923 | \$ | 32,315,373 | \$ | 30,555,460 |
| \$ | 624,427,505 | \$ | 568,167,813 | \$ | 666,534,551 | \$ | 667,345,480 | \$ | 567,015,013 | \$ | 521,411,279 |
| \$ | 704,735,602 | \$ | 670,910,030 | \$ | 671,721,084 | \$ | 624,442,059 | \$ | 565,604,518 | \$ | 510,523,409 |
| \$ | 876,252,316 | \$ | 812,467,140 | \$ | 770,668,381 | \$ | 728,638,097 | \$ | 697,663,933 | \$ | 670,515,820 |
|  | 71.26\% |  | 69.93\% |  | 86.49\% |  | 91.59\% |  | 81.27\% |  | 77.76\% |
| \$ | 75,064,492 | \$ | 74,616,607 | \$ | 73,993,478 | \$ | 73,216,582 | \$ | 72,305,460 | \$ | 71,277,872 |
| \$ | 192,786,430 | \$ | 154,002,240 | \$ | 102,751,307 | \$ | 106,821,650 | \$ | 138,753,419 | \$ | 169,264,548 |
| \$ | 92,383,724 | \$ | 88,362,181 | \$ | 84,164,497 | \$ | 81,084,751 | \$ | 82,859,110 | \$ | 84,762,421 |
| \$ | 6,594,413 | \$ | 6,105,938 |  | N/A |  | N/A |  | N/A |  | N/A |
| \$ | 1,058,375,835 | \$ | 981,785,120 | \$ | 932,630,366 | \$ | 885,565,042 | \$ | 859,522,507 | \$ | 835,828,250 |


| Fiscal 2011 | Fiscal 2010 | Fiscal 2009 | Fiscal 2008 | Fiscal 2007 | Fiscal 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9.25\% | 9.25\% | 9.25\% | 9.25\% | 9.25\% | 9.25\% |
| 3.07\% | 3.07\% | 2.82\% | 2.62\% | 2.56\% | 2.34\% |
| 16.41\% | 13.78\% | 10.25\% | 11.17\% | 13.89\% | 16.30\% |
| 14.25\% | 13.50\% | 13.50\% | 13.50\% | 16.25\% | 16.00\% |

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## EXHIBIT X <br> PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits $\qquad$
2. Funding Deposit Account Credit Balance
3. Frozen Unfunded Actuarial Accrued Liability
4. Actuarial Value of Assets
5. Present Value of Future Employee Contributions
6. Present Value of Future Employer Normal Costs (1+2-3-4-5) $\qquad$
$\qquad$
7. Present Value of Future Salaries $\qquad$
8. Employer Normal Cost Accrual Rate $(6 \div 7)$ $\qquad$
9. Projected Fiscal 2015 Salary for Current Membership $\qquad$
10. Employer Normal Cost as of July 1, $2014(8 \times 9)$ $\qquad$
11. Amortization Payment on Frozen Unfunded Accrued Liability with Payments Decreasing at 2\% per year
12. Employer Normal Cost and Amortization Payment Interest Adjusted for Midyear Payment
13. Estimated Administrative Cost for Fiscal 2015
14. TOTAL Employer Actuarially Required Contribution for Fiscal $2015(13+14)$
15. Projected Ad Valorem Tax Contributions for Fiscal 2015 $\qquad$
16. Projected Revenue Sharing Funds for Fiscal 2015 $\qquad$\$52,680
17. Net Direct Employer Actuarially Required Contribution for Fiscal 2015 (15-16-17) ..... \$ ..... 6,673,361
18. Projected Payroll for Fiscal 2015 ..... \$ ..... 69,499,251
19. Employers' Net Direct Actuarially Required Contribution as a $\%$ of Projected Payroll for $2015(18 \div 19)$ ..... 9.60\%
20. Actual Employer Contribution Rate for Fiscal 2015 (includes FDA contribution) ..... 10.00\%
21. Contribution Shortfall (Excess) as a Percentage of Payroll (20-21) ..... (0.40\%)
22. Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess)(0.05\%)
23. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2016 (20 + 23, Rounded to Nearest 0.25\%) ..... 9.50\%

## EXHIBIT XI <br> PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:
Retirement Benefits ..... \$ 142,910,627
Survivor Benefits ..... 3,269,400
Disability Benefits ..... 2,171,882
Vested Termination Benefits ..... 6,688,245
Refunds of Contributions ..... 5,177,228
TOTAL Present Value of Future Benefits for Active Members ..... \$
160,217,382
PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:
Terminated Vested Members Due Benefits at Retirement ..... \$ ..... 4,124,717
Terminated Members with Reciprocals
Due Benefits at Retirement. ..... 664,191
Terminated Members Due a Refund. ..... 741,390
TOTAL Present Value of Future Benefits for Terminated Members ..... \$
5,530,298
PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:
Regular Retirees by Option Selected:
Maximum. ..... \$ 30,585,195
Option 2 ..... 21,195,521
Option 3 ..... 8,663,967
TOTAL Regular Retirees ..... \$ 60,444,683
TOTAL Disability Retirees ..... \$ 6,429,246
TOTAL Survivors \& Widows ..... \$ 11,580,518
Reserve for Accrued Retiree DROP Account Balances ..... \$ ..... 681,207
TOTAL Present Value of Future Benefits for Retirees \& Survivors ..... \$
TOTAL Present Value of Future Benefits ..... \$244,883,334

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

## CURRENT ASSETS:

Cash in Banks ..... \$
5,012,173
Accrued Interest and Dividends ..... 1,181,699
Contributions and Taxes Receivable ..... 664,811
Due (to) from Other Funds ..... 484,907
Other Income ..... 110,342
Investments Receivable ..... 52,278
TOTAL CURRENT ASSETS ..... \$
7,506,210
Property Plant \& Equipment. ..... \$
199,621
INVESTMENTS:
Equities ..... \$ ..... 62,370,515
Alternative Investments ..... 41,861,283
Real Estate ..... 23,451,978
Fixed Income ..... 14,112,838
Cash Equivalents ..... 9,650,460
TOTAL INVESTMENTS ..... \$
TOTAL ASSETS\$
159,152,905
CURRENT LIABILITIES:
Accounts Payable ..... \$ ..... 226,975
Refunds Payable ..... 51,872
Investments Payable ..... 8,934
Other Current Liabilities ..... 343,336
TOTAL CURRENT LIABILITIES ..... \$
631,117
OTHER CONTROLLING INTEREST ..... \$$(1,862,392)$
MARKET VALUE OF ASSETS ..... \$ ..... 156,659,396

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

Excess (Shortfall) of invested income for current and previous 4 years:
Fiscal year 2014 ..... \$ 5,602,846
Fiscal year 2013 ..... $(4,984,469)$
Fiscal year 2012 ..... $(18,345,178)$
Fiscal year 2011 ..... 3,285,686
Fiscal year 2010 ..... 3,382,611
Total for five years ..... \$ $(11,058,504)$
Deferral of excess (shortfall) of invested income:
Fiscal year 2014 (80\%) ..... \$ 4,482,277
Fiscal year 2013 (60\%) ..... $(2,990,681)$
Fiscal year 2012 (40\%) ..... (7,338,071)
Fiscal year 2011 (20\%) ..... 657,137
Fiscal year 2010 ( 0\%) ..... 0
Total deferred for year ..... \$ $(5,189,338)$
Market value of plan net assets, end of year ..... \$ 156,659,396
Preliminary actuarial value of plan assets, end of year ..... \$ 161,848,734
Actuarial value of assets corridor
$85 \%$ of market value, end of year ..... \$ 133,160,487
$115 \%$ of market value, end of year ..... \$ 180,158,305
Allocated Share of the Expense Fund ..... \$ ..... 143,546
Final actuarial value of plan net assets, end of year ..... \$ 161,992,280

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

Employee Contributions to the Annuity Savings Fund ..... \$ ..... 21,982,912
Employer Normal Contributions to the Pension Accumulation Fund ..... 60,613,662
Employer Amortization Payments to the Pension Accumulation Fund ..... 3,421,001
Funding Deposit Account Credit Balance ..... $(3,126,521)$
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS ..... \$ ..... 82,891,054
EXHIBIT XIV
PLAN B: CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY
Prior Year Frozen Unfunded Accrued Liability ..... \$ ..... 3,740,857
Interest on Frozen Unfunded Accrued Liability ..... \$ ..... 289,916
Employer Normal Cost for Prior Year. ..... 7,649,570
Interest on Normal Cost ..... 592,842
Administrative Expenses ..... 210,603
Interest on Expenses ..... 8,009
TOTAL Interest Adjusted Cost Elements ..... \$ ..... 8,750,940
Gross Employer Contributions ..... \$ 5,950,944
Interest on Employer Contributions ..... 226,296
Ad Valorem Taxes and Revenue Sharing ..... 2,260,931
Interest on Ad Valorem Taxes and Revenue Sharing Funds ..... 85,976
Contribution Shortfall (Excess) ..... 507,329
Interest on Contribution Shortfall (Excess) ..... 39,320
TOTAL Interest Adjusted Employer Contributions ..... \$

## EXHIBIT XV <br> PLAN B: ANALYSIS OF INCREASE IN ASSETS

Actuarial Value of Assets (June 30, 2013)\$153,851,774INCOME:
Member Contributions ..... \$ 3,223,747
Employer Contributions ..... 5,950,944
Irregular Contributions ..... 966,037
Tax Revenue ..... 2,260,931
Total Contributions ..... \$
12,401,659
Net Appreciation (Depreciation) in Fair Value of Investments... \$14,558,847
Alternative Investment Income. ..... 2,514,264
Interest \& Dividend Income ..... 378,102
Net Loss Attributable to Controlling Interests ..... 125,936
Miscellaneous Income ..... 42,777
Investment Expense ..... $(1,235,063)$
Net Investment Income ..... \$ ..... 16,384,863
TOTAL Income ..... \$ ..... 28,786,522
EXPENSES:
Retirement Benefits ..... \$ 8,944,809
DROP Disbursements ..... 901,567
Refunds of Contributions ..... 864,399
Funds Transferred to another System ..... 35,608
Transferred to Plan A ..... 1,874,484
Administrative Expenses ..... 442,881
TOTAL Expenses ..... \$
13,063,748
Net Market Value Income for Fiscal 2014 (Income - Expenses) ..... \$ ..... 15,722,774
Unadjusted Fund Balance as of June 30, 2014
(Fund Balance Previous Year + Net Income) ..... \$ 169,574,548
Adjustment for Change in Allocated Expense Fund Balance ..... \$ ..... 232,279
Adjustment for Actuarial Smoothing. ..... \$ ..... $(7,814,547)$
Actuarial Value of Assets (June 30, 2014) ..... \$
EXHIBIT XVI - Schedule APLAN B: PENSION BENEFIT OBLIGATION
Present Value of Credited Projected Benefits Payable to Current Employees ..... \$ ..... 108,257,492
Present Value of Benefits Payable to Terminated Employees ..... 5,530,298
Present Value of Benefits Payable to Current Retirees and Beneficiaries ..... 79,135,654
TOTAL PENSION BENEFIT OBLIGATION ..... \$ ..... 192,923,444
NET ACTUARIAL VALUE OF ASSETS ..... \$ ..... 161,992,280
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation. ..... 83.97\%
EXHIBIT XVI - Schedule B ENTRY AGE NORMAL ACCRUED LIABILITIES
Accrued Liability for Active Employees ..... \$ ..... 115,096,774
Accrued Liability for Terminated Employees
Accrued Liability for Current Retirees and Beneficiaries ..... 79,135,654
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY ..... \$ ..... 199,762,726
NET MARKET VALUE OF ASSETS ..... \$ ..... 156,659,396
Ratio of Net Market Value of Assets to Entry Age Normal Accrued Liability ..... 78.42\%

## EXHIBIT XVII 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 June 30, 2013 \& 2,051 \& 1,216 \& 77 \& 900 \& 4,244 \\
\hline \begin{tabular}{l}
Additions to Census \\
Initial membership \\
Omitted in error last year \\
Death of Another Member
\end{tabular} \& 300 \& 38 \& \& \[
\begin{gathered}
10 \\
(4)
\end{gathered}
\] \& \[
\begin{array}{r}
338 \\
10 \\
(4)
\end{array}
\] \\
\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}
(60) \\
(29) \\
(38) \\
7 \\
10 \\
16
\end{tabular} \& \begin{tabular}{l}
60 \\
(7) \\
(2) \\
3
\end{tabular} \& \begin{tabular}{l}
(9) \\
(16)
\end{tabular} \& 29
2

9 \& 13 <br>

\hline | Eliminated from Census |
| :--- |
| Refund of contributions |
| Deaths |
| Included in error last year |
| Adjustment for multiple records | \& | (174) |
| :--- |
| (5) |
| 2 | \& | (65) |
| :--- |
| (1) |
| 2 | \& (2) \& | (29) |
| :--- |
| (1) | \& | (239) |
| :--- |
| (35) |
| 1 | <br>

\hline Number of members as of June 30, 2014 \& 2,080 \& 1,244 \& 88 \& 916 \& 4,328 <br>
\hline
\end{tabular}

PLAN B - ACTIVES CENSUS BY AGE:

| Age | Number Male | Number <br> Female | Total Number | Average Salary | Total <br> Salary |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $16-20$ | 4 | 0 | 4 | 17,885 | 71,540 |
| 21-25 | 87 | 14 | 101 | 21,104 | 2,131,548 |
| 26-30 | 90 | 34 | 124 | 24,801 | 3,075,315 |
| $31-35$ | 134 | 53 | 187 | 27,302 | 5,105,496 |
| 36-40 | 115 | 57 | 172 | 30,574 | 5,258,731 |
| 41-45 | 132 | 81 | 213 | 29,702 | 6,326,459 |
| 46-50 | 182 | 81 | 263 | 32,882 | 8,647,930 |
| 51-55 | 252 | 125 | 377 | 32,955 | 12,424,149 |
| 56-60 | 221 | 122 | 343 | 33,799 | 11,593,062 |
| 61-65 | 164 | 66 | 230 | 35,389 | 8,139,522 |
| 66-70 | 55 | 29 | 84 | 35,634 | 2,993,250 |
| 71-75 | 43 | 7 | 50 | 29,575 | 1,478,773 |
| $76-80$ | 10 | 4 | 14 | 31,902 | 446,621 |
| 81-85 | 5 | 0 | 5 | 48,032 | 240,162 |
| $86-90$ | 1 | 0 | 1 | 6,600 | 6,600 |
| TOTAL | 1,495 | 673 | 2,168 | 31,337 | 67,939,158 |

THE ACTIVE CENSUS INCLUDES 803 ACTIVES WITH VESTED BENEFITS, INCLUDING 88 DROP PARTICIPANTS AND 79 ACTIVE FORMER DROP PARTICIPANTS.

PLAN B - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

| ge | Number <br> Male | Number <br> Female | Total Number | Average Benefit | Total <br> Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $36-40$ | 2 | 1 | 3 | 11,552 | 34,656 |
| 41-45 | 4 | 3 | 7 | 11,739 | 82,174 |
| 46-50 | 7 | 5 | 12 | 7,834 | 94,010 |
| 51-55 | 15 | 8 | 23 | 13,613 | 313,094 |
| $56-60$ | 15 | 8 | 23 | 7,395 | 170,083 |
| $61-65$ | 4 | 1 | 5 | 13,396 | 66,978 |
| $71-75$ | 1 | 0 | 1 | 494 | 494 |
| TOTAL | 48 | 26 | 74 | 10,290 | 761,489 |

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

| Contributions | Ranging |  |
| :---: | :---: | :---: |
| From | To |  |
| 0 | To |  |
| 100 | - | 499 |
| 500 | - | 999 |
| 1000 | - | 1999 |
| 2000 | - | 4999 |
| 5000 | - | 9999 |
| 10000 | - | 19999 |
| 20000 |  | 99999 |
|  | TOTAL |  |


|  | Total |
| :---: | :---: |
| Number | Contributions |
| 751 | 22,180 |
| 221 | 51,840 |
| 58 | 41,139 |
| 51 | 71,427 |
| 47 | 155,997 |
| 30 | 210,307 |
| 11 | 144,465 |
| 1 | 23,667 |
| 1,170 | 721,022 |

PLAN B - REGULAR RETIREES:

| Age | Number Male | Number <br> Female | Total Number | Average Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 51-55 | 7 | 5 | 12 | 19,498 | 233,970 |
| 56-60 | 17 | 7 | 24 | 19,930 | 478,328 |
| 61-65 | 65 | 24 | 89 | 14,297 | 1,272,465 |
| 66-70 | 95 | 36 | 131 | 11,853 | 1,552,771 |
| $71-75$ | 82 | 35 | 117 | 10,262 | 1,200,688 |
| $76-80$ | 86 | 37 | 123 | 9,825 | 1,208,536 |
| 81-85 | 54 | 18 | 72 | 9,011 | 648,816 |
| $86-90$ | 31 | 11 | 42 | 7,215 | 303,022 |
| 91-99 | 14 | 4 | 18 | 5,860 | 105,475 |
| TOTAL | 451 | 177 | 628 | 11,153 | 7,004,071 |

PLAN B - DISABILITY RETIREES:

| Age | Number Male | Number <br> Female | Total <br> Number | Average Benefit | $\begin{gathered} \text { Total } \\ \text { Benefit } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $41-45$ | 3 | 0 | 3 | 7,097 | 21,290 |
| $46-50$ | 2 | 0 | 2 | 8,716 | 17,432 |
| $51-55$ | 12 | 4 | 16 | 10,800 | 172,807 |
| $56-60$ | 13 | 2 | 15 | 10,179 | 152,686 |
| 61-65 | 17 | 3 | 20 | 10,017 | 200,343 |
| 66-70 | 6 | 1 | 7 | 8,825 | 61,778 |
| $71-75$ | 1 | 0 | 1 | 10,507 | 10,507 |
| $76-80$ | 2 | 0 | 2 | 6,709 | 13,418 |
| $81-85$ | 1 | 0 | 1 | 10,484 | 10,484 |
| TOTAL | 57 | 10 | 67 | 9,862 | 660,745 |

PLAN B - SURVIVORS:

| Age | Number Male | Number <br> Female | Total <br> Number | Average <br> Benefit | Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $26-30$ | 0 | 1 | 1 | 2,245 | 2,245 |
| $31-35$ | 1 | 0 | 1 | 10,042 | 10,042 |
| 36-40 | 0 | 1 | 1 | 4,280 | 4,280 |
| 46-50 | 2 | 4 | 6 | 3,337 | 20,024 |
| $51-55$ | 2 | 9 | 11 | 7,364 | 80,999 |
| 56-60 | 2 | 15 | 17 | 8,293 | 140,979 |
| 61-65 | 2 | 15 | 17 | 9,386 | 159,556 |
| 66-70 | 0 | 24 | 24 | 7,087 | 170,076 |
| $71-75$ | 1 | 34 | 35 | 6,585 | 230,480 |
| 76-80 | 1 | 39 | 40 | 6,202 | 248,064 |
| 81-85 | 1 | 31 | 32 | 7,177 | 229,671 |
| $86-90$ | 1 | 25 | 26 | 5,563 | 144,632 |
| 91-99 | 0 | 10 | 10 | 3,594 | 35,938 |
| TOTAL | 13 | 208 | 221 | 6,683 | 1,476,986 |

PLAN B - ACTIVE MEMBERS:
Completed Years of Service

| Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \& Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-20$ | 4 |  |  |  |  |  |  |  |  |  |  | 4 |
| $21-25$ | 41 | 29 | 20 | 8 | 1 | 2 |  |  |  |  |  | 101 |
| $26-30$ | 36 | 20 | 19 | 10 | 8 | 31 |  |  |  |  |  | 124 |
| $31-35$ | 42 | 31 | 16 | 10 | 11 | 49 | 24 | 4 |  |  |  | 187 |
| $36-40$ | 29 | 23 | 15 | 13 | 5 | 52 | 18 | 15 | 2 |  |  | 172 |
| $41-45$ | 18 | 18 | 12 | 17 | 9 | 63 | 33 | 21 | 20 | 2 |  | 213 |
| $46-50$ | 33 | 20 | 11 | 14 | 14 | 69 | 40 | 33 | 17 | 9 | 3 | 263 |
| $51-55$ | 26 | 32 | 27 | 21 | 15 | 96 | 45 | 34 | 37 | 18 | 26 | 377 |
| $56-60$ | 25 | 19 | 22 | 17 | 8 | 65 | 44 | 41 | 45 | 25 | 32 | 343 |
| $61-65$ | 9 | 8 | 7 | 11 | 14 | 57 | 38 | 23 | 30 | 17 | 16 | 230 |
| $66-70$ | 6 | 2 |  | 4 | 2 | 27 | 14 | 10 | 10 | 6 | 3 | 84 |
| 71 \& Over | 2 | 3 | 1 | 2 | 1 | 13 | 12 | 12 | 8 | 8 | 8 | 70 |
| Totals | 271 | 205 | 150 | 127 | 88 | 524 | 268 | 193 | 169 | 85 | 88 | 2168 |

Completed Years of Service

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \& Over | Average Salary |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-20$ | 17,885 |  |  |  |  |  |  |  |  |  |  | 17,885 |
| $21-25$ | 19,836 | 20,791 | 22,485 | 24,542 | 21,216 | 24,052 |  |  |  |  |  | 21,104 |
| $26-30$ | 21,486 | 23,515 | 23,284 | 29,747 | 24,158 | 28,980 |  |  |  |  |  | 24,801 |
| $31-35$ | 20,857 | 22,337 | 21,940 | 27,634 | 32,363 | 32,837 | 33,724 | 33,826 |  |  |  | 27,302 |
| $36-40$ | 20,886 | 28,547 | 23,998 | 34,617 | 26,531 | 34,592 | 34,450 | 37,550 | 35,827 |  |  | 30,574 |
| $41-45$ | 23,162 | 26,651 | 29,483 | 26,964 | 29,350 | 28,429 | 28,840 | 38,786 | 35,601 | 42,124 |  | 29,702 |
| 46-50 | 24,314 | 26,379 | 24,156 | 27,484 | 27,807 | 34,818 | 35,342 | 34,844 | 43,322 | 45,607 | 55,098 | 32,882 |
| 51-55 | 24,434 | 24,139 | 30,143 | 28,196 | 28,680 | 33, 348 | 33,427 | 30,899 | 41,232 | 42,957 | 43,279 | 32,955 |
| $56-60$ | 23,859 | 23,806 | 21,813 | 23,766 | 30, 920 | 30,052 | 37,959 | 33,729 | 39,825 | 40,874 | 49,768 | 33,799 |
| 61-65 | 22,185 | 32, 251 | 33,726 | 31,157 | 36,442 | 32,691 | 37,772 | 33, 986 | 38,624 | 40,998 | 41,046 | 35,389 |
| 66-70 | 29,588 | 20,708 |  | 28,449 | 30,207 | 37,642 | 34,828 | 36,229 | 37,852 | 32,580 | 53,299 | 35,634 |
| 71 \& Over | 23,234 | 26,041 | 26,591 | 22,921 | 44,540 | 31,797 | 37,839 | 19,647 | 31,842 | 26,560 | 45,024 | 31,031 |
| Average | 22,194 | 24,546 | 25,194 | 28,046 | 30,105 | 32,434 | 34,874 | 33,555 | 39,230 | 39,938 | 46,136 | 31,337 |


| Attained Ages | Years Until Retirement Eligibility |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Total |
| 0-35 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $36-40$ |  |  |  |  |  |  |  |  | 3 |  |  | 3 |
| 41-45 |  |  |  |  |  |  |  | 7 |  |  |  | 7 |
| 46-50 |  |  |  |  |  |  | 12 |  |  |  |  | 12 |
| $51-55$ |  |  |  |  |  | 23 |  |  |  |  |  | 23 |
| 56-60 | 5 | 6 | 3 | 6 | 3 |  |  |  |  |  |  | 23 |
| 61-65 | 5 |  |  |  |  |  |  |  |  |  |  | 5 |
| 66-70 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $71-75$ | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
| 76 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Totals | 11 | 6 | 3 | 6 | 3 | 23 | 12 | 7 | 3 | 0 | 0 | 74 |
| PLAN B - AVERAGE ANNUAL BENEFITS OF TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT: Years Until Retirement Eligibility |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Average Benefit |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0-35 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $36-40$ |  |  |  |  |  |  |  |  | 11,552 |  |  | 11,552 |
| 41-45 |  |  |  |  |  |  |  | 11,739 |  |  |  | 11,739 |
| 46-50 |  |  |  |  |  |  | 7,834 |  |  |  |  | 7,834 |
| 51-55 |  |  |  |  |  | 13,613 |  |  |  |  |  | 13,613 |
| 56-60 | 9,336 | 4,064 | 8,459 | 9,606 | 5,334 |  |  |  |  |  |  | 7,395 |
| 61-65 | 13,396 |  |  |  |  |  |  |  |  |  |  | 13,396 |
| 66-70 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 71-75 | 494 |  |  |  |  |  |  |  |  |  |  | 494 |
| 76 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Average | 10,378 | 4,064 | 8,459 | 9,606 | 5,334 | 13,613 | 7,834 | 11,739 | 11,552 | 0 | 0 | 10,290 |

PLAN B - SERVICE RETIREES:
Completed Years Since Retirement

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-50 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $51-55$ | 3 | 1 | 2 | 3 | 1 | 2 |  |  |  |  |  | 12 |
| 56-60 | 2 | 5 | 3 | 9 | 2 | 1 | 2 |  |  |  |  | 24 |
| 61-65 | 15 | 25 | 14 | 16 | 4 | 9 | 6 |  |  |  |  | 89 |
| 66-70 | 6 | 11 | 12 | 14 | 10 | 67 | 11 |  |  |  |  | 131 |
| 71-75 | 3 | 6 | 4 | 6 | 7 | 48 | 33 | 9 | 1 |  |  | 117 |
| $76-80$ | 1 | 1 |  | 4 | 2 | 21 | 45 | 43 | 4 | 2 |  | 123 |
| 81-85 |  | 1 |  | 2 | 1 | 6 | 11 | 33 | 14 | 4 |  | 72 |
| $86-90$ | 2 |  | 1 |  |  | 1 | 1 | 2 | 17 | 16 | 2 | 42 |
| 91 \& Over |  |  |  |  |  | 1 |  |  | 2 | 6 | 9 | 18 |
| Totals | 32 | 50 | 36 | 54 | 27 | 156 | 109 | 87 | 38 | 28 | 11 | 628 |

Completed Years Since Retirement

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-50 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $51-55$ | 22,059 | 29,114 | 24,628 | 16,122 | 18,036 | 11,510 |  |  |  |  |  | 19,498 |
| 56-60 | 19,935 | 15,960 | 23,258 | 20,404 | 25,596 | 25,375 | 14,337 |  |  |  |  | 19,930 |
| 61-65 | 11,570 | 15,350 | 11,900 | 14,740 | 11,699 | 19,595 | 14,929 |  |  |  |  | 14,297 |
| 66-70 | 14,660 | 11,621 | 11,595 | 10,184 | 11,871 | 11,924 | 12,511 |  |  |  |  | 11,853 |
| 71-75 | 19,647 | 10,977 | 11,986 | 13,469 | 7,807 | 9,101 | 9,668 | 11,964 | 28,894 |  |  | 10,262 |
| $76-80$ | 13,738 | 14,137 |  | 10,249 | 20,273 | 9,080 | 10,322 | 9,080 | 12,118 | 2,504 |  | 9,825 |
| 81-85 |  | 4,876 |  | 4,102 | 3,167 | 4,931 | 10,731 | 9,567 | 8,072 | 14,058 |  | 9,011 |
| $86-90$ | 5,465 |  | 5,364 |  |  | 1,192 | 6,336 | 8,777 | 8,480 | 5,844 | 11,995 | 7,215 |
| 91 \& Over |  |  |  |  |  | 4,396 |  |  | 4,647 | 6,119 | 6,119 | 5,860 |
| Average | 14,099 | 14,107 | 13,280 | 13,712 | 12,337 | 10,810 | 10,677 | 9,556 | 9,048 | 6,838 | 7,187 | 11,153 |

PLAN B - 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 |
| 0-40 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 41-45 |  | 1 |  | 1 |  | 1 |  |  |  |  |  | 3 |
| 46-50 | 1 |  |  |  |  | 1 |  |  |  |  |  | 2 |
| 51-55 | 3 | 2 | 1 | 1 |  | 6 | 2 | 1 |  |  |  | 16 |
| 56-60 | 3 | 2 | 3 | 1 |  | 3 | 2 |  | 1 |  |  | 15 |
| 61-65 |  |  | 1 | 3 | 2 | 6 | 5 | 1 | 2 |  |  | 20 |
| 66-70 |  |  |  |  |  | 3 | 1 | 1 | 1 |  | 1 | 7 |
| 71-75 |  |  |  |  |  |  |  | 1 |  |  |  | 1 |
| 76-80 |  |  |  |  |  |  |  |  | 1 | 1 |  | 2 |
| 81-85 |  |  |  |  |  |  |  |  | 1 |  |  | 1 |
| 86 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Totals | 7 | 5 | 5 | 6 | 2 | 20 | 10 | 4 | 6 | 1 | 1 | 67 |
| Plan b - average annual benefits payable to disability retirees: |  |  |  |  |  |  |  |  |  |  |  |  |
| 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 | Average Benefit |
| 0-40 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 41-45 |  | 8,094 |  | 6,324 |  | 6,872 |  |  |  |  |  | 7,097 |
| 46-50 | 10,215 |  |  |  |  | 7,217 |  |  |  |  |  | 8,716 |
| 51-55 | 10,566 | 8,442 | 6,138 | 10,680 |  | 14,064 | 9,128 | 4,766 |  |  |  | 10,800 |
| 56-60 | 11,351 | 7,480 | 10,951 | 23,114 |  | 9,145 | 7,600 |  | 5,071 |  |  | 10,179 |
| 61-65 |  |  | 11,366 | 14,611 | 10,598 | 13,026 | 5,598 | 7,415 | 5,194 |  |  | 10,017 |
| 66-70 |  |  |  |  |  | 11,234 | 5,626 | 4,056 | 12,210 |  | 6,183 | 8,825 |
| 71-75 |  |  |  |  |  |  |  | 10,507 |  |  |  | 10,507 |
| $76-80$ |  |  |  |  |  |  |  |  | 9,802 | 3,616 |  | 6,709 |
| $81-85$ |  |  |  |  |  |  |  |  | 10,484 |  |  | 10,484 |
| 86 \& Over |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Average | 10,852 | 7,987 | 10,071 | 13,992 | 10,598 | 11,888 | 6,707 | 6,686 | 7,992 | 3,616 | 6,183 | 9,862 |

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G. S. CURRAN \& COMPANY, LTD.
PLAN B - SURVIVING BENEFICIARIES OF FORMER MEMBERS:

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:
Completed Years Since Retirement

| Attained Ages | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 \&Over | Average Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-25 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| $26-30$ |  |  |  |  |  |  | 2,245 |  |  |  |  | 2,245 |
| 31-35 |  |  |  |  |  |  | 10,042 |  |  |  |  | 10,042 |
| 36-40 |  |  |  |  |  |  |  | 4,280 |  |  |  | 4,280 |
| 41-45 |  |  |  |  |  |  |  |  |  |  |  | 0 |
| 46-50 |  |  |  |  |  | 2,557 | 9,607 | 1,959 | 1,386 |  |  | 3,337 |
| 51-55 | 4,269 |  | 11,400 |  | 1,520 | 5,675 | 10,435 | 8,406 |  | 3,029 |  | 7,364 |
| 56-60 | 15,910 | 5,426 |  | 22,180 |  | 8,823 | 4,417 |  | 8,211 | 2,836 |  | 8,293 |
| 61-65 |  |  | 18,149 | 13,849 |  | 12,418 | 6,558 | 9,245 | 4,126 |  | 3,933 | 9,386 |
| 66-70 |  | 8,779 | 7,288 |  |  | 6,576 | 8,853 | 5,945 | 4,851 |  |  | 7,087 |
| $71-75$ |  |  | 8,962 |  |  | 5,357 | 5,684 | 8,104 | 6,774 | 6,493 |  | 6,585 |
| 76-80 |  |  |  |  |  | 8,906 | 5,079 | 5,470 | 5,099 | 9,533 |  | 6,202 |
| $81-85$ |  |  |  |  | 1,176 | 11,678 | 3,929 | 7,500 | 8,383 | 6,573 | 12,561 | 7,177 |
| 86-90 |  |  |  | 4,586 |  | 6,648 |  | 2,415 | 5,833 | 6,839 | 3,699 | 5,563 |
| 91 \& Over |  |  |  |  |  |  | 2,131 |  | 430 | 7,604 | 3,028 | 3,594 |
| Average | 10,090 | 7,102 | 11,433 | 11,300 | 1,348 | 7,650 | 6,095 | 6,690 | 6,150 | 6,755 | 4,584 | 6,683 |

## EXHIBIT XVIII <br> PLAN B: YEAR-TO-YEAR COMPARISON

Fiscal $2014 \quad$ Fiscal $2013 \quad$ Fiscal $2012 \quad$ Fiscal 2011

| Number of Active Members | 2,168 |  | 2,128 |  | 2,155 |  | 2,175 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of Retirees \& Survivors | 916 |  | 900 |  | 879 |  | 865 |
| Number of Terminated Due Deferred Benefits | 74 |  | 61 |  | 61 |  | 62 |
| Number Terminated Due Refunds | 1,170 |  | 1,155 |  | 1,100 |  | 1,062 |
| Active Lives Payroll | \$ 67,939,158 | \$ | 65,928,929 | \$ | 66,409,896 | \$ | 65,427,477 |
| Retiree Benefits in Payment | \$ 9,141,803 | \$ | 8,793,050 | \$ | 8,285,257 | \$ | 7,953,795 |
| Market Value of Assets | \$ 156,659,396 | \$ | 140,744,063 | \$ | 137,164,489 | \$ | 144,028,034 |
| Actuarial Value of Assets | \$ 161,992,280 | \$ | 153,851,774 | \$ | 154,451,871 | \$ | 152,966,837 |
| Actuarial Accrued Liability (EAN) | \$199,762,726 | \$ | 192,160,973 | \$ | 187,178,650 | \$ | 181,142,563 |
| Ratio of MVA to EAN Accrued Liability | 78.42\% |  | 73.24\% |  | 73.28\% |  | 79.51\% |
| Unfunded Actuarial Accrued Liability | \$ 3,421,001 | \$ | 3,740,857 | \$ | 4,049,257 | \$ | 4,346,525 |
| Present Value of Future Employer Normal Cost | \$ 60,613,662 | \$ | 60,012,141 | \$ | 54,153,087 | \$ | 49,451,626 |
| Present Value of Future Employee Contrib. | \$ 21,982,912 | \$ | 21,589,199 | \$ | 21,845,625 | \$ | 21,582,459 |
| Funding Deposit Account Credit Balance | \$ 3,126,521 | \$ | 2,901,644 | \$ | 2,692,941 | \$ | 2,493,464 |
| Present Value of Future Benefits | \$ 244,883,334 | \$ | 236,292,327 | \$ | 231,806,899 | \$ | 225,853,983 |
| ****************************************************************************************** |  |  |  |  |  |  |  |
|  | Fiscal 2015 |  | Fiscal 2014 |  | Fiscal 2013 |  | Fiscal 2012 |
| Employee Contribution Rate | 5.00\% |  | 5.00\% |  | 5.00\% |  | 5.00\% |
| Projected Tax Contribution as \% of Payroll | 3.41\% |  | 3.38\% |  | 3.14\% |  | 3.10\% |
| Actuarially Required Net Direct Employer |  |  |  |  |  |  |  |
| Contribution Rate | 9.60\% |  | 9.82\% |  | 8.72\% |  | 7.89\% |
| Actual Employer Contribution Rate | 10.00\% $\dagger$ |  | 8.75\% |  | 8.00\% |  | 8.00\% |


|  | Fiscal 2010 |  | Fiscal 2009 |  | Fiscal 2008 |  | Fiscal 2007 |  | Fiscal 2006 |  | Fiscal 2005 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2,197 |  | 2,269 |  | 2,191 |  | 2,153 |  | 2,060 |  | 2,038 |
|  | 836 |  | 833 |  | 793 |  | 794 |  | 763 |  | 745 |
|  | 72 |  | 67 |  | 68 |  | 74 |  | 77 |  | 79 |
|  | 1,062 |  | 1,022 |  | 998 |  | 928 |  | 777 |  | 806 |
| \$ | 65,241,810 | \$ | 64,816,945 | \$ | 59,233,705 | \$ | 54,572,935 | \$ | 51,055,201 | \$ | 48,690,316 |
| \$ | 7,339,269 | \$ | 7,149,177 | \$ | 6,625,934 | \$ | 6,328,157 | \$ | 5,872,330 | \$ | 5,649,984 |
| \$ | 130,596,777 | \$ | 117,258,410 |  | 134,832,148 |  | 132,326,073 |  | 111,581,452 |  | 101,109,899 |
| \$ | 147,046,143 | \$ | 138,441,127 |  | 136,207,119 |  | 124,483,332 |  | 111,404,638 | \$ | 96,417,685 |
| \$ | 175,023,271 | \$ | 159,960,891 |  | 149,264,791 |  | 138,533,272 |  | 132,804,556 |  | 127,284,765 |
|  | 74.62\% |  | 73.30\% |  | 90.33\% |  | 95.52\% |  | 84.02\% |  | 79.44\% |
| \$ | 4,633,960 | \$ | 4,912,541 | \$ | 5,183,177 | \$ | 5,446,715 | \$ | 5,703,945 | \$ | 5,955,605 |
| \$ | 48,645,557 | \$ | 38,895,181 |  | 26,827,388 | \$ | 26,365,299 | \$ | 32,959,966 | \$ | 41,742,178 |
| \$ | 21,546,957 | \$ | 21,769,886 |  | 19,992,613 | \$ | 18,627,179 | \$ | 17,883,419 | \$ | 17,253,376 |
| \$ | 2,308,763 | \$ | 1,806,555 |  | N/A |  | N/A |  | N/A |  | N/A |
| \$ | 219,563,854 | \$ | 202,212,180 |  | 188,210,297 |  | 174,922,525 |  | 167,951,968 |  | 161,368,844 |


| Fiscal 2011 | Fiscal 2010 | Fiscal 2009 | Fiscal 2008 | Fiscal 2007 | Fiscal 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $5.00 \%$ | $5.00 \%$ | $5.00 \%$ | $5.00 \%$ | $5.00 \%$ | $5.00 \%$ |
| $3.07 \%$ | $3.06 \%$ | $2.82 \%$ | $2.60 \%$ | $2.54 \%$ | $2.36 \%$ |
| $7.78 \%$ | $5.95 \%$ | $4.50 \%$ | $5.06 \%$ | $7.08 \%$ | $9.86 \%$ |
| $6.75 \%$ | $6.75 \%$ | $6.75 \%$ | $6.75 \%$ | $9.75 \%$ | $9.75 \%$ |

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

All members of the Municipal Employees’ Retirement System are participants in either Plan A or 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.

MEMBERSHIP - All persons who are actively employed by a participating employer on a permanent, regularly scheduled basis of at least an average of thirty-five hours per week are members of this system. Excluded from membership are members of city councils, alderman, town councilmen, and constables; the exclusion does not apply to persons serving in excluded positions on January 1, 1997.

## PLAN A PROVISIONS:

CONTRIBUTION RATES - The Board of Trustees may set the employee contribution rate not less than $9.25 \%$ nor more than $10.00 \%$. In addition, each sheriff and ex officio tax collector deducts onefourth 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 remits the money to the system on an annual basis. Taxes are apportioned between Plan A and Plan B in proportion to salaries of plan participants. Taxes received from East Baton Rouge Parish are apportioned between the Municipal Employees' Retirement System and the Employees’ Retirement System of the City of Baton Rouge. The system also receives revenue sharing funds each year as appropriated by the legislature. The remaining employer contributions are determined according to actuarial requirements and are set annually.

RETIREMENT BENEFITS - Members with ten years of creditable service may retire at age sixty; members with twenty-five years of service may retire regardless of age. The monthly retirement allowance is equal to three percent of the member's final compensation multiplied by his years of creditable service; elected officials receive an additional one-half percent of final compensation for each year of such elected service. However, the accrued retirement benefits for those employees who were members of only the supplemental plan prior to October 1, 1978, are based on one percent of final compensation plus two dollars per month for each year of service credited prior to October 1, 1978. The retirement allowance may not exceed the greater of final annual salary or one hundred percent of the member's final average compensation. Members with twenty years of service credit, not otherwise eligible for normal retirement, are eligible for a modified actuarially reduced early retirement.

DISABILITY BENEFITS - Five years of creditable service are required in order to be eligible for disability benefits. Twenty years of creditable service are required in order for a member to have a vested disability benefit. A disabled member receives a normal retirement allowance if eligible under regular retirement provisions; if he is not eligible for a normal retirement, he receives a disability benefit equal to the lesser of:

1) Forty-five percent of his final average compensation or three percent of his final average compensation multiplied by his years of creditable service, whichever is greater; or
2) Three percent of his final average compensation multiplied by his years of creditable service projected to his earliest normal retirement age.

SURVIVOR BENEFITS - Five years of creditable service are required in order to be eligible for survivor benefits. If the member is eligible for normal retirement at the time of death, the surviving spouse receives an automatic option two benefit. If the member is not eligible for a normal retirement, the surviving spouse with minor children receives sixty percent of final compensation payable until no child in her care satisfies the definition of minor child. The surviving spouse with no minor children receives forty percent of final compensation payable upon attainment of age sixty by the spouse, or the actuarial equivalent of this amount payable immediately (such equivalent not to be less than $20 \%$ of final compensation). Minor children with no surviving unmarried parent receive thirty percent of final compensation each not to exceed a total of sixty percent of final compensation. Survivor benefits are also payable to the surviving spouses of former members who have not withdrawn their accumulated contributions and who have at least twenty years of creditable service. The benefits payable are the actuarial equivalent of the Option 2 benefits that would have become payable to the surviving spouse at the time the former member would have begun receiving deferred normal retirement benefits, had the member survived until that date, elected Option 2, and died at that time.

TIER 2 PROVISIONS: Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 65 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a $3 \%$ accrual rate. Employee contributions are set by the Board of Trustees within a range of $8 \%$ to $10 \%$.

## PLAN B PROVISIONS:

CONTRIBUTION RATES - The Board of Trustees may set the employee contribution rate not less than $5.00 \%$ nor more than $6.00 \%$. In addition, each sheriff and ex officio tax collector deducts onefourth 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 remits the money to the system on an annual basis. Taxes are apportioned between Plan A and Plan B in proportion to salaries of plan participants. Taxes received from East Baton Rouge Parish are apportioned between the Municipal Employees’ Retirement System and the Employees’ Retirement System of the City of Baton Rouge. The system also receives revenue sharing funds each year as appropriated by the legislature. The remaining employer contributions are determined according to actuarial requirements and are set annually.

RETIREMENT BENEFITS - Members with ten years of creditable service may retire at age sixty; members with thirty years of service may retire at any age. The monthly retirement allowance is equal to two percent of the member's final compensation multiplied by his years of creditable service; elected officials receive an additional one-half percent of final compensation for each year of such elected service.

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DISABILITY BENEFITS - Ten years of creditable service are required in order to be eligible for disability benefits. Twenty years of creditable service are required in order for a member to have a vested disability benefit. A disabled member receives a normal retirement allowance if eligible under regular retirement provisions; if he is not eligible for a normal retirement allowance, he receives a disability benefit equal to the lesser of:

1) Thirty percent of his final average compensation or two percent of his final average compensation multiplied by his years of creditable service, whichever is greater; and
2) Two percent of his final average compensation multiplied by his years of creditable service projected to his earliest normal retirement age.

SURVIVOR BENEFITS - The surviving spouse of a member who was eligible for normal retirement at the time of death receives an automatic option two benefit. The surviving spouse of a member with five or more years of creditable service and not eligible for normal retirement at the time of death receives either $30 \%$ of the member's final compensation payable to the spouse when they attain age 60 or an actuarial equivalent of $30 \%$ of the deceased member's final compensation, but not less than $15 \%$ of such final compensation. Survivor benefits are also payable to the surviving spouses of former members who have not withdrawn their accumulated contributions and who have at least twenty years of creditable service. The benefits payable are the actuarial equivalent of the Option 2 benefits that would have become payable to the surviving spouse at the time the former member would have begun receiving deferred normal retirement benefits, had the member survived until that date, elected Option 2 , and died at that time.

TIER 2 PROVISIONS: Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 will become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 65 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a $2 \%$ accrual rate. Employee contributions are set by the Board of Trustees within a range of $4 \%$ to $6 \%$.

## PROVISIONS APPLICABLE TO BOTH PLAN A AND B:

FINAL AVERAGE COMPENSATION -For a member whose first employment making him eligible for membership in the system began after June 30, 2006, final average compensation is based on the average monthly earnings during the highest sixty consecutive months or joined months if service was interrupted. The earnings to be considered for each twelve month period within the sixty month period may not exceed $115 \%$ of the preceding twelve month period.

Effective January 1, 2013, for a member whose first employment making him eligible for membership in the system began before July 1, 2006, final average compensation was redefined to be thirty-six months plus the number of whole months since January 1, 2013 not to exceed sixty months. However, the actual monthly final average compensation used to determine the member's benefit cannot be less than the thirty-six month final average compensation as of January 1, 2013. The earnings to be considered for each twelve month period within the final average compensation period may not exceed $115 \%$ of the preceding twelve month period.

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UNUSED SICK \& ANNUAL LEAVE - All unused sick and annual leave is credited at the time of retirement to the member if the employer so elects for his employees. The actuarial cost of providing this conversion is borne solely by the employer and must be paid to the board within thirty days of the member's retirement date.

OPTIONAL ALLOWANCES - Members may receive their benefits as a life annuity, or in lieu of such a reduced benefit according to the option selected which is the actuarial equivalent of the maximum benefit.

Option 2 - Upon retirement, the member receives a reduced benefit. Upon the member's death, the designated beneficiary will continue to receive the same reduced benefit.

Option 3 - Upon retirement, the member receives a reduced benefit. Upon the member's death, the designated beneficiary will receive one-half of the member's reduced benefit.

Option 4 - Upon retirement, the member elects to receive a board-approved benefit which is actuarially equivalent to the maximum benefit.

A member may also elect to receive an actuarially reduced benefit which provides for an automatic $2 \frac{1}{2} \%$ annual compound increase in monthly retirement benefits based on the reduced benefit and commencing on the later of age fifty-five or retirement anniversary; this COLA is in addition to any ad hoc COLAs which are payable.

DEFERRED RETIREMENT OPTION PLAN - In lieu of terminating employment and accepting a service retirement allowance, any member of Plan A or 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. Upon commencement of participation in the plan, membership in the system terminates. During 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 account. After a member terminates his participation in DROP his account will earn interest at the actual rate of return earned on the funds left on deposit as certified by the custodian of the system's assets. This interest will be credited to the individual member's account balance on a daily basis beginning July 1, 2006. In addition, no cost of living increases are payable to 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 payment 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 DROP account 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

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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. For any member hired prior to July 1, 2006, 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 any member hired on or after July 1, 2006, whose period of additional service after their DROP participation period ends is less than sixty months, the final compensation figure used to calculate the additional benefit will be that used to calculate the original benefit. If their period of additional service is sixty months or more, the final compensation figure used to calculate the additional benefit will be based on their compensation during the period of additional service.

COST OF LIVING INCREASES - The board of trustees is authorized to grant retired members, and widows of members, who have been retired for at least one full year an annual cost of living increase of two percent of their original benefit and all retired members and widows who are sixty-five years of age and older a two percent increase in their original benefit (or their benefit as of October 1, 1977, if they retired prior to that time). In order for the board to grant either of these increases the system must meet certain criteria detailed in the statute related to funding status and interest earnings on investments. In lieu of other cost of living increases the board may grant an increase to retirees in the form " $\mathrm{X} \times(\mathrm{A} \& \mathrm{~B})$ " where " A " is equal to the number of years of credited service accrued as retirement or death of the member or retiree and " B " is equal to the number of years since death of the member or retiree to June 30 of the initial year of increase and " X " is equal to any amount available for funding such increase up to a maximum of $\$ 1.00$.

## 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 effect of emerging experience on the fund is illustrated by the following chart.

Factor
Investment Earnings Rate
Annual Rate of Salary Increase
Rates of Retirement
Rates of Termination
Rates of Disability
Rates of Mortality
ACTUARIAL COST METHOD:

ACTUARIAL ASSET VALUES:

VALUATION INTEREST RATE:
ANNUAL SALARY INCREASE RATE:
ACTIVE MEMBER MORTALITY:
ANNUITANT, AND
BENEFICIARY MORTALITY:
RETIREE COST OF LIVING INCREASES:

Increase in Factor Results in
Decrease in Cost
Increase in Cost
Increase in Cost
Decrease in Cost
Increase in Cost
Decrease in Cost
Frozen Attained Age Normal Actuarial Cost Method with allocation based on earnings. The frozen actuarial accrued liabilities were calculated on the projected unit credit cost method.

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.
7.75\% (Net of Investment Expense)
5.75\% (3.00\% Inflation / 2.75\% Merit)

RP 2000 Employee Table for males and females
RP 2000 Healthy Annuitant Table for males and females

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. These rates apply only to those individuals eligible to retire. Members are assumed to retire no earlier than normal retirement age. In the first year of eligibility the tabular rates are multiplied by 1.5.

RETIREMENT LIMITATIONS: Projected retirement benefits are not subjected to IRS Section 415 limits.

DROP ENTRY RATES: The table of these rates is included later in the report. These rates apply only to those individuals eligible to participate in DROP. In the first year of eligibility the tabular rates are multiplied by 1.5.

DROP PARTICIPATION PERIOD: DROP participants are assumed to participate for 3 years. At the end of the DROP participation period, one half of participants are assumed to retire; the other half are assumed to work one additional year.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS:

Retirement rates for active former DROP participants are as follows:

| Ages | Retirement Rates |
| :---: | :---: |
| Below 89 | 0.19 |
| 90 | 1.00 |

RATES OF WITHDRAWAL: The rates of withdrawal are applied based upon completed years of service according to the following table:

| Service | Plan A | Plan B |
| :---: | :---: | :---: |
| 0 | 0.24 | 0.26 |
| 1 | 0.19 | 0.20 |
| 2 | 0.16 | 0.15 |
| 3 | 0.12 | 0.15 |
| 4 | 0.10 | 0.10 |
| 5 | 0.08 | 0.10 |
| 6 | 0.08 | 0.09 |
| 7 | 0.08 | 0.09 |
| 8 | 0.06 | 0.06 |
| 9 | 0.06 | 0.05 |
| 10 | 0.06 | 0.05 |
| 11 | 0.05 | 0.05 |


| 12 | 0.05 | 0.05 |
| :---: | :---: | :---: |
| 13 | 0.05 | 0.05 |
| 14 | 0.03 | 0.05 |
| 15 | 0.03 | 0.05 |
| 16 | 0.03 | 0.03 |
| 17 | 0.01 | 0.03 |
| 18 | 0.01 | 0.03 |
| 19 | 0.01 | 0.03 |
| 20 | 0.01 | 0.02 |
| over 20 | 0.01 | 0.02 |

Note: The withdrawal rate for individuals eligible to retire is assumed to be zero.
RATES OF DISABILITY: $20 \%$ of the disability rates used for the $21^{\text {st }}$ valuation of the Railroad Retirement System for individuals with $10-19$ years of service.

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

FAMILY STATISTICS: Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in the 2000 U. S. Census:

| Member's <br> Age | \% With <br> 25 | Children | Number of <br> Children |
| :---: | :---: | :---: | :---: | | Avg. |
| :---: |
| Age |
| 35 |

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

VESTING ELECTING PERCENTAGE: $30 \%$ of those members under age 40 who are terminated vested elect deferred benefits in lieu of contribution refunds. $45 \%$ of those who are between the ages of $40-49$ who are terminated vested elect deferred benefits in lieu of contribution refunds. $60 \%$ of those who are at least age 50 who are terminated vested elect deferred benefits in lieu of contribution refunds.

## PLAN A ACTUARIAL TABLES AND RATES

| Age | Retired Male Mortality Rates | Female Mortality Rates | Active Male Mortality Rates | Active Female Mortality Rates | Retirement Rates | DROP Entry Rates | Disability | Remarriage Rates |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 0.00032 | 0.00019 | 0.00032 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 19 | 0.00033 | 0.00019 | 0.00033 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 20 | 0.00035 | 0.00019 | 0.00035 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 21 | 0.00036 | 0.00019 | 0.00036 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05213 |
| 22 | 0.00037 | 0.00019 | 0.00037 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.04834 |
| 23 | 0.00037 | 0.00020 | 0.00037 | 0.00020 | 0.00000 | 0.00000 | 0.00030 | 0.04522 |
| 24 | 0.00038 | 0.00020 | 0.00038 | 0.00020 | 0.00000 | 0.00000 | 0.00030 | 0.04270 |
| 25 | 0.00038 | 0.00021 | 0.00038 | 0.00021 | 0.00000 | 0.00000 | 0.00030 | 0.04070 |
| 26 | 0.00038 | 0.00021 | 0.00038 | 0.00021 | 0.00000 | 0.00000 | 0.00030 | 0.03915 |
| 27 | 0.00038 | 0.00022 | 0.00038 | 0.00022 | 0.00000 | 0.00000 | 0.00030 | 0.03799 |
| 28 | 0.00039 | 0.00024 | 0.00039 | 0.00024 | 0.00000 | 0.00000 | 0.00030 | 0.03714 |
| 29 | 0.00041 | 0.00025 | 0.00041 | 0.00025 | 0.00000 | 0.00000 | 0.00030 | 0.03654 |
| 30 | 0.00044 | 0.00026 | 0.00044 | 0.00026 | 0.00000 | 0.00000 | 0.00030 | 0.03611 |
| 31 | 0.00050 | 0.00031 | 0.00050 | 0.00031 | 0.00000 | 0.00000 | 0.00030 | 0.03578 |
| 32 | 0.00056 | 0.00035 | 0.00056 | 0.00035 | 0.00000 | 0.00000 | 0.00030 | 0.03549 |
| 33 | 0.00063 | 0.00039 | 0.00063 | 0.00039 | 0.00000 | 0.00000 | 0.00030 | 0.03515 |
| 34 | 0.00070 | 0.00044 | 0.00070 | 0.00044 | 0.00000 | 0.00000 | 0.00030 | 0.03471 |
| 35 | 0.00077 | 0.00047 | 0.00077 | 0.00047 | 0.00000 | 0.00000 | 0.00034 | 0.03409 |
| 36 | 0.00084 | 0.00051 | 0.00084 | 0.00051 | 0.00000 | 0.00000 | 0.00038 | 0.03286 |
| 37 | 0.00090 | 0.00055 | 0.00090 | 0.00055 | 0.00000 | 0.00000 | 0.00042 | 0.03139 |
| 38 | 0.00096 | 0.00060 | 0.00096 | 0.00060 | 0.00000 | 0.00000 | 0.00048 | 0.02973 |
| 39 | 0.00102 | 0.00065 | 0.00102 | 0.00065 | 0.00000 | 0.00000 | 0.00054 | 0.02787 |
| 40 | 0.00108 | 0.00071 | 0.00108 | 0.00071 | 0.00000 | 0.00000 | 0.00062 | 0.02585 |
| 41 | 0.00114 | 0.00077 | 0.00114 | 0.00077 | 0.06000 | 0.27000 | 0.00070 | 0.02352 |
| 42 | 0.00122 | 0.00085 | 0.00122 | 0.00085 | 0.06000 | 0.27000 | 0.00078 | 0.02111 |
| 43 | 0.00130 | 0.00094 | 0.00130 | 0.00094 | 0.06000 | 0.27000 | 0.00088 | 0.01868 |
| 44 | 0.00140 | 0.00103 | 0.00140 | 0.00103 | 0.06000 | 0.27000 | 0.00100 | 0.01629 |
| 45 | 0.00151 | 0.00112 | 0.00151 | 0.00112 | 0.06000 | 0.27000 | 0.00114 | 0.01400 |
| 46 | 0.00162 | 0.00122 | 0.00162 | 0.00122 | 0.06000 | 0.27000 | 0.00130 | 0.01208 |
| 47 | 0.00173 | 0.00133 | 0.00173 | 0.00133 | 0.06000 | 0.27000 | 0.00146 | 0.01034 |
| 48 | 0.00186 | 0.00143 | 0.00186 | 0.00143 | 0.06000 | 0.27000 | 0.00166 | 0.00879 |
| 49 | 0.00200 | 0.00155 | 0.00200 | 0.00155 | 0.06000 | 0.27000 | 0.00188 | 0.00744 |
| 50 | 0.00535 | 0.00234 | 0.00214 | 0.00168 | 0.06000 | 0.27000 | 0.00214 | 0.00629 |
| 51 | 0.00553 | 0.00246 | 0.00229 | 0.00181 | 0.06000 | 0.27000 | 0.00244 | 0.00551 |
| 52 | 0.00564 | 0.00265 | 0.00245 | 0.00197 | 0.06000 | 0.27000 | 0.00276 | 0.00493 |
| 53 | 0.00572 | 0.00290 | 0.00262 | 0.00213 | 0.06000 | 0.27000 | 0.00314 | 0.00451 |
| 54 | 0.00580 | 0.00319 | 0.00281 | 0.00232 | 0.06000 | 0.27000 | 0.00356 | 0.00423 |
| 55 | 0.00590 | 0.00353 | 0.00303 | 0.00253 | 0.06000 | 0.27000 | 0.00404 | 0.00406 |
| 56 | 0.00612 | 0.00393 | 0.00331 | 0.00276 | 0.06000 | 0.27000 | 0.00460 | 0.00000 |
| 57 | 0.00644 | 0.00438 | 0.00363 | 0.00301 | 0.06000 | 0.27000 | 0.00522 | 0.00000 |
| 58 | 0.00690 | 0.00492 | 0.00400 | 0.00329 | 0.06000 | 0.27000 | 0.00592 | 0.00000 |
| 59 | 0.00749 | 0.00553 | 0.00441 | 0.00360 | 0.06000 | 0.27000 | 0.00674 | 0.00000 |
| 60 | 0.00820 | 0.00620 | 0.00488 | 0.00393 | 0.14000 | 0.27000 | 0.00976 | 0.00000 |
| 61 | 0.00900 | 0.00692 | 0.00538 | 0.00429 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 62 | 0.00991 | 0.00769 | 0.00592 | 0.00466 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 63 | 0.01095 | 0.00851 | 0.00647 | 0.00504 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 64 | 0.01212 | 0.00939 | 0.00703 | 0.00543 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 65 | 0.01342 | 0.01036 | 0.00757 | 0.00582 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 66 | 0.01487 | 0.01141 | 0.00810 | 0.00621 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 67 | 0.01646 | 0.01254 | 0.00860 | 0.00658 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 68 | 0.01820 | 0.01377 | 0.00907 | 0.00695 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 69 | 0.02011 | 0.01515 | 0.00951 | 0.00729 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 70 | 0.02221 | 0.01674 | 0.00992 | 0.00761 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 71 | 0.02457 | 0.01858 | 0.02457 | 0.01858 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 72 | 0.02728 | 0.02066 | 0.02728 | 0.02067 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 73 | 0.03039 | 0.02297 | 0.03039 | 0.02297 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 74 | 0.03390 | 0.02546 | 0.03390 | 0.02546 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |
| 75 | 0.03783 | 0.02811 | 0.03783 | 0.02811 | 0.14000 | 0.12000 | 0.00976 | 0.00000 |

## PLAN B ACTUARIAL TABLES AND RATES

| Age | Retired Male Mortality Rates | Female Mortality Rates | Active Male Mortality Rates | Active Female Mortality Rates | Retirement Rates | DROP Entry Rates | Disability Rates | Remarriage Rates |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 0.00032 | 0.00019 | 0.00032 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 19 | 0.00033 | 0.00019 | 0.00033 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 20 | 0.00035 | 0.00019 | 0.00035 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05665 |
| 21 | 0.00036 | 0.00019 | 0.00036 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.05213 |
| 22 | 0.00037 | 0.00019 | 0.00037 | 0.00019 | 0.00000 | 0.00000 | 0.00030 | 0.04834 |
| 23 | 0.00037 | 0.00020 | 0.00037 | 0.00020 | 0.00000 | 0.00000 | 0.00030 | 0.04522 |
| 24 | 0.00038 | 0.00020 | 0.00038 | 0.00020 | 0.00000 | 0.00000 | 0.00030 | 0.04270 |
| 25 | 0.00038 | 0.00021 | 0.00038 | 0.00021 | 0.00000 | 0.00000 | 0.00030 | 0.04070 |
| 26 | 0.00038 | 0.00021 | 0.00038 | 0.00021 | 0.00000 | 0.00000 | 0.00030 | 0.03915 |
| 27 | 0.00038 | 0.00022 | 0.00038 | 0.00022 | 0.00000 | 0.00000 | 0.00030 | 0.03799 |
| 28 | 0.00039 | 0.00024 | 0.00039 | 0.00024 | 0.00000 | 0.00000 | 0.00030 | 0.03714 |
| 29 | 0.00041 | 0.00025 | 0.00041 | 0.00025 | 0.00000 | 0.00000 | 0.00030 | 0.03654 |
| 30 | 0.00044 | 0.00026 | 0.00044 | 0.00026 | 0.00000 | 0.00000 | 0.00030 | 0.03611 |
| 31 | 0.00050 | 0.00031 | 0.00050 | 0.00031 | 0.00000 | 0.00000 | 0.00030 | 0.03578 |
| 32 | 0.00056 | 0.00035 | 0.00056 | 0.00035 | 0.00000 | 0.00000 | 0.00030 | 0.03549 |
| 33 | 0.00063 | 0.00039 | 0.00063 | 0.00039 | 0.00000 | 0.00000 | 0.00030 | 0.03515 |
| 34 | 0.00070 | 0.00044 | 0.00070 | 0.00044 | 0.00000 | 0.00000 | 0.00030 | 0.03471 |
| 35 | 0.00077 | 0.00047 | 0.00077 | 0.00047 | 0.00000 | 0.00000 | 0.00034 | 0.03409 |
| 36 | 0.00084 | 0.00051 | 0.00084 | 0.00051 | 0.00000 | 0.00000 | 0.00038 | 0.03286 |
| 37 | 0.00090 | 0.00055 | 0.00090 | 0.00055 | 0.00000 | 0.00000 | 0.00042 | 0.03139 |
| 38 | 0.00096 | 0.00060 | 0.00096 | 0.00060 | 0.00000 | 0.00000 | 0.00048 | 0.02973 |
| 39 | 0.00102 | 0.00065 | 0.00102 | 0.00065 | 0.00000 | 0.00000 | 0.00054 | 0.02787 |
| 40 | 0.00108 | 0.00071 | 0.00108 | 0.00071 | 0.00000 | 0.00000 | 0.00062 | 0.02585 |
| 41 | 0.00114 | 0.00077 | 0.00114 | 0.00077 | 0.00000 | 0.00000 | 0.00070 | 0.02352 |
| 42 | 0.00122 | 0.00085 | 0.00122 | 0.00085 | 0.00000 | 0.00000 | 0.00078 | 0.02111 |
| 43 | 0.00130 | 0.00094 | 0.00130 | 0.00094 | 0.00000 | 0.00000 | 0.00088 | 0.01868 |
| 44 | 0.00140 | 0.00103 | 0.00140 | 0.00103 | 0.00000 | 0.00000 | 0.00100 | 0.01629 |
| 45 | 0.00151 | 0.00112 | 0.00151 | 0.00112 | 0.00000 | 0.00000 | 0.00114 | 0.01400 |
| 46 | 0.00162 | 0.00122 | 0.00162 | 0.00122 | 0.06000 | 0.24000 | 0.00130 | 0.01208 |
| 47 | 0.00173 | 0.00133 | 0.00173 | 0.00133 | 0.06000 | 0.24000 | 0.00146 | 0.01034 |
| 48 | 0.00186 | 0.00143 | 0.00186 | 0.00143 | 0.06000 | 0.24000 | 0.00166 | 0.00879 |
| 49 | 0.00200 | 0.00155 | 0.00200 | 0.00155 | 0.06000 | 0.24000 | 0.00188 | 0.00744 |
| 50 | 0.00535 | 0.00234 | 0.00214 | 0.00168 | 0.06000 | 0.24000 | 0.00214 | 0.00629 |
| 51 | 0.00553 | 0.00246 | 0.00229 | 0.00181 | 0.06000 | 0.24000 | 0.00244 | 0.00551 |
| 52 | 0.00564 | 0.00265 | 0.00245 | 0.00197 | 0.06000 | 0.24000 | 0.00276 | 0.00493 |
| 53 | 0.00572 | 0.00290 | 0.00262 | 0.00213 | 0.06000 | 0.24000 | 0.00314 | 0.00451 |
| 54 | 0.00580 | 0.00319 | 0.00281 | 0.00232 | 0.06000 | 0.24000 | 0.00356 | 0.00423 |
| 55 | 0.00590 | 0.00353 | 0.00303 | 0.00253 | 0.36000 | 0.38000 | 0.00404 | 0.00000 |
| 56 | 0.00612 | 0.00393 | 0.00331 | 0.00276 | 0.22000 | 0.38000 | 0.00460 | 0.00000 |
| 57 | 0.00644 | 0.00438 | 0.00363 | 0.00301 | 0.22000 | 0.38000 | 0.00522 | 0.00000 |
| 58 | 0.00690 | 0.00492 | 0.00400 | 0.00329 | 0.22000 | 0.38000 | 0.00592 | 0.00000 |
| 59 | 0.00749 | 0.00553 | 0.00441 | 0.00360 | 0.22000 | 0.16000 | 0.00674 | 0.00000 |
| 60 | 0.00820 | 0.00620 | 0.00488 | 0.00393 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 61 | 0.00900 | 0.00692 | 0.00538 | 0.00429 | 0.12000 | 0.16000 | 0.01060 | 0.00000 |
| 62 | 0.00991 | 0.00769 | 0.00592 | 0.00466 | 0.12000 | 0.16000 | 0.01156 | 0.00000 |
| 63 | 0.01095 | 0.00851 | 0.00647 | 0.00504 | 0.12000 | 0.16000 | 0.01110 | 0.00000 |
| 64 | 0.01212 | 0.00939 | 0.00703 | 0.00543 | 0.12000 | 0.16000 | 0.00702 | 0.00000 |
| 65 | 0.01342 | 0.01036 | 0.00757 | 0.00582 | 0.12000 | 0.16000 | 0.00126 | 0.00000 |
| 66 | 0.01487 | 0.01141 | 0.00810 | 0.00621 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 67 | 0.01646 | 0.01254 | 0.00860 | 0.00658 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 68 | 0.01820 | 0.01377 | 0.00907 | 0.00695 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 69 | 0.02011 | 0.01515 | 0.00951 | 0.00729 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 70 | 0.02221 | 0.01674 | 0.00992 | 0.00761 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 71 | 0.02457 | 0.01858 | 0.02457 | 0.01858 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 72 | 0.02728 | 0.02066 | 0.02728 | 0.02067 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 73 | 0.03039 | 0.02297 | 0.03039 | 0.02297 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 74 | 0.03390 | 0.02546 | 0.03390 | 0.02546 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |
| 75 | 0.03783 | 0.02811 | 0.03783 | 0.02811 | 0.12000 | 0.16000 | 0.00976 | 0.00000 |

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## 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

