**Volunteer Firefighters'
Compensation Act
of the
State of Montana**

**GASB 67 and 68 Report
as of
June 30, 2014**

Produced by Cheiron

May 2015

Table of Contents

CHEIRON

BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government Accounting Standards Board Statement 67 and 68 for the Volunteer Firefighters' Compensation Act and the State of Montana. This information includes:

- Determination of the discount rate,
- Projection of the Total Pension Liability from the actuarial valuation date to the measurement date,
- Changes in the Net Pension Liability from the beginning to the end of the measurement period,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Schedule of Changes in Net Pension Liability and Related Ratios,
- Changes in the Net Pension Liability,
- Schedule of State Contributions,
- Schedule of Deferred Inflows and Outflows, and
- Calculation of Pension Expense.

Highlights

This report is the first report under GASB 68, and is a supplement to the GASB 67 report under the same reporting date previously provided. The reporting date for the State of Montana Volunteer Firefighters' Compensation Act (VFCA) is June 30, 2014. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2014 and the Total Pension Liability as of an actuarial valuation date of June 30, 2013, updated to June 30, 2014. There were no significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments.

Beginning of year measurements are also based on the actuarial valuation as of June 30, 2013. Because the beginning and ending values are based on the same actuarial valuation and there were no significant events, no liability gains or losses due to experience are reported this year. In future years, liability gains and losses will be reported reflecting the liability gains and losses between actuarial valuation dates, as well as any significant events during the update period.

The table on the next page provides a summary of the key results during this reporting period.

BOARD SUMMARY

Table 1 Summary of Results				
	Measurement Date			
		6/30/2014		**6/30/2013**
Total Pension Liability	$	38,359,440	$	37,573,382
Plan Fiduciary Net Position		33,270,201		29,067,228
Net Pension Liability	$	5,089,239	$	8,506,154
Deferred Inflows		2,068,858		0
Deferred Outflows		0		0
Net Impact on Statement of Net Position	$	7,158,097	$	8,506,154
Pension Expense ($ Amount)	$	470,180		N/A
Pension Expense (% of Pensionable Payroll*)		N/A		N/A
Discount Rate		7.75%		7.75%

* Throughout this report, pensionable payroll will be used rather than Covered-Employee Payroll as defined by GASB, and described in Appendix A. Payroll is not applicable in calculations under VFCA.

If the State elects to use June 30, 2014 as its initial measurement date under GASB 68, a Net Pension Liability of $8,506,154 would be recognized as of the beginning of the reporting year.

As of the end of the reporting year, the State would report a total Net Pension Liability of $5,089,239 and Deferred Inflows of $2,068,858. Consequently, the net impact on the State's Statement of Net Position would be $7,158,097 at the end of the reporting year. In addition, any contributions between the measurement date and the reporting date by the State would be reported as deferred outflows to match the cash outflow reported.

For the measurement year ending June 30, 2014, the Pension Expense is $470,180. This amount is not expected to be the same as the State's contribution to the Plan ($1,818,237), but instead represents the change in the net impact on the State's Statement of Net Position plus State contributions [$7,158,097 + $1,818,237 - $8,506,154]. A breakdown of the Pension Expense is shown in this report.

CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 and 68 for the State of Montana Volunteer Firefighters' Compensation Act (VFCA). This report is for the use of VFCA, the State of Montana, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for VFCA.

In preparing our report, we relied on information (some oral and some written) supplied by Montana Public Employee Retirement Administration (MPERA). This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The membership data, actuarial assumptions, and plan provisions are the same as were described in the June 30, 2013 Actuarial Valuation Report for VFCA, except that it has been assumed that the rate of investment return is net only of investment expenses, rather than net of both investment and administrative expenses. The administrative expense is assumed to be $61,000.

Future reporting requirements may differ significantly from the current reporting requirements presented in this report due to such factors as the following: plan experience differing from that anticipated by assumptions; changes in assumptions; and changes in plan provisions or applicable law.
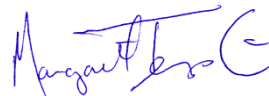
To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for VFCA for the purposes described herein and for the use by the Plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Sincerely,
Cheiron

Stephen T. McElhaney, FSA, FCA, MAAA   Margaret Tempkin, FSA, MAAA
Principal Consulting Actuary   Principal Consulting Actuary

DETERMINATION OF DISCOUNT RATE

The discount rate as of June 30, 2014 is 7.75% which is the assumed long-term expected rate of return on System investments. Projections of the System's fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current Plan members following the procedures described in paragraphs 39 - 45 of GASB Statement 67. The results of these projections are included within this report in Appendix B.

PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the beginning of the measurement year is measured at the actuarial valuation date of June 30, 2013. The TPL at June 30, 2013 is the same as was reported for actuarial valuation purposes as of June 30, 2013, except that for active members the TPL is based upon a normal cost that increases with the inflation rate rather than being level dollar. The TPL at the end of the measurement year, June 30, 2014, is measured as of an actuarial valuation date of June 30, 2013 and projected to June 30, 2014. In future years, both the beginning and end of year TPL will be measured as of an actuarial valuation date one year prior and projected to the appropriate date. There were no significant events during the projection period of which we are aware. The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure. TPL and Service Cost have been determined using the Entry Age Actuarial Cost Method as described in paragraph 46 of GASB Statement 67.

Table 2			
Projection of Total Pension Liability			
Discount Rate	**6.75%**	**7.75%**	**8.75%**
Total Pension Liability, 6/30/2013			
Actives	$ 12,732,521	$ 11,109,656	$ 9,767,876
Deferred Vested	8,767,440	7,851,987	7,082,303
Retirees	19,883,606	18,611,739	17,487,180
Total	$ 41,383,567	$ 37,573,382	$ 34,337,359
Service Cost, Beginning of Year			
Service Cost	$ 303,302	$ 237,639	$ 188,155
Benefit Payments	$ 2,294,676	$ 2,294,676	$ 2,294,676
Interest	$ 2,737,683	$ 2,843,095	$ 2,922,695
Change in Benefits	$ 0	$ 0	$ 0
Change in Assumptions	$ 0	$ 0	$ 0
Other Significant Events	$ 0	$ 0	$ 0
Total Pension Liability, 6/30/2014	$ 42,129,876	$ 38,359,440	$ 35,153,533

NOTE DISCLOSURES

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the measurement year.

	Table 3		
	Change in Net Pension Liability		
	Increase (Decrease)		
	Total Pension Liability **(a)**	**Plan Fiduciary Net Position** **(b)**	**Net Pension Liability** **(a) - (b)**
Balances at 6/30/2013	$ 37,573,382	$ 29,067,228	$ 8,506,154
Changes for the year:			
Service cost	237,639		237,639
Interest	2,843,095		2,843,095
Changes of benefits	0		0
Changes of assumptions	0		0
Differences between expected and actual experience	0		0
Contributions - employer		0	0
Contributions - non-employer		1,818,237	(1,818,237)
Contributions - member		0	0
Net investment income		4,815,491	(4,815,491)
Benefit payments	(2,294,676)	(2,294,676)	0
Administrative expense		(136,079)	136,079
Net changes	**786,058**	**4,202,973**	**(3,416,915)**
Balances at 6/30/2014	**$ 38,359,440**	**$ 33,270,201**	**$ 5,089,239**

There were no changes in benefits or changes in assumptions during the year. Because the beginning and end of year TPL are both based on the same actuarial valuation, there are no differences between expected and actual experience reported this year.

Total contributions and investment income exceeded the service cost, interest cost and administrative expenses, resulting in a decrease in the Net Pension Liability (NPL) of $3,416,915. The NPL remaining as of June 30, 2014, is $5,089,239.

NOTE DISCLOSURES

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the NPL to the discount rate.

	1% Decrease 6.75%	Discount Rate 7.75%	1% Increase 8.75%
Table 4			
Sensitivity of Net Pension Liability to Changes in Discount Rate			
As of June 30, 2014			
Total Pension Liability	$ 42,129,876	$ 38,359,440	$ 35,153,533
Plan Fiduciary Net Position	33,270,201	33,270,201	33,270,201
Net Pension Liability	$ 8,859,675	$ 5,089,239	$ 1,883,332
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	79.0%	86.7%	94.6%

A one percent decrease in the discount rate increases the TPL by approximately 9.8% and increases the NPL by approximately 74.1%. A one percent increase in the discount rate decreases the TPL by approximately 8.4% and decreases the NPL by approximately 63.0%.

REQUIRED SUPPLEMENTARY INFORMATION

The schedules of Required Supplementary Information generally start with one year of information as of the implementation of GASB 67, but eventually will need to build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB.

<table>
<tr><td colspan="2" align="center">Table 5</td></tr>
<tr><td colspan="2" align="center">Schedule of Changes in Net Pension Liability and Related Ratios</td></tr>
<tr><td></td><td align="center">FYE 2014</td></tr>
<tr><td><u>Total Pension Liability</u></td><td></td></tr>
<tr><td>Service cost (BOY)</td><td>$ 237,639</td></tr>
<tr><td>Interest (includes interest on service cost)</td><td>2,843,095</td></tr>
<tr><td>Changes of benefit terms</td><td>0</td></tr>
<tr><td>Differences between expected and actual experience</td><td>0</td></tr>
<tr><td>Changes of assumptions</td><td>0</td></tr>
<tr><td>Benefit payments, including refunds of member contributions</td><td>(2,294,676)</td></tr>
<tr><td>Net change in total pension liability</td><td>$ 786,058</td></tr>
<tr><td>Total pension liability - beginning</td><td>37,573,382</td></tr>
<tr><td>Total pension liability - ending</td><td>$ 38,359,440</td></tr>
<tr><td><u>Plan fiduciary net position</u></td><td></td></tr>
<tr><td>Contributions - employer</td><td>$ 0</td></tr>
<tr><td>Contributions - non-employer</td><td>1,818,237</td></tr>
<tr><td>Contributions - member</td><td>0</td></tr>
<tr><td>Net investment income</td><td>4,815,491</td></tr>
<tr><td>Benefit payments, including refunds of member contributions</td><td>(2,294,676)</td></tr>
<tr><td>Administrative expense</td><td>(136,079)</td></tr>
<tr><td>Net change in plan fiduciary net position</td><td>$ 4,202,973</td></tr>
<tr><td>Plan fiduciary net position - beginning</td><td>29,067,228</td></tr>
<tr><td>Plan fiduciary net position - ending</td><td>$ 33,270,201</td></tr>
<tr><td>Net pension liability - ending</td><td>$ 5,089,239</td></tr>
<tr><td>Plan fiduciary net position as a percentage of the total pension liability</td><td>86.73%</td></tr>
<tr><td>Pensionable payroll</td><td>N/A</td></tr>
<tr><td>Net pension liability as a percentage of pensionable payroll</td><td>N/A</td></tr>
</table>

REQUIRED SUPPLEMENTARY INFORMATION

If an Actuarially Determined Contribution is calculated, the following schedule is required. An Actuarially Determined Contribution is a contribution amount determined in accordance with Actuarial Standards of Practice.

Table 6 **Schedule of Employer Contributions** Last Fiscal Year Dollar Amounts in Thousands		
		2014
Actuarially Determined Contribution	$	1,116
Contributions in Relation to the Actuarially Determined Contribution		1,818
Contribution Deficiency/(Excess)	**$**	**(702)**
Pensionable Payroll		N/A
Contributions as a Percentage of Pensionable Payroll		N/A

STATE REPORTING AMOUNTS

The State is considered a non-employer contributing entity in a Special Funding Situation under paragraph 15b of GASB 68, since the State is the only entity with a legal obligation to make contributions directly to the Plan. The State is not required to implement GASB 68 until its reporting date of June 30, 2015. However, the amounts reported as of June 30, 2015 can be based on either a June 30, 2014 or June 30, 2015 measurement date. The schedules in this section are provided should the State elect to use the 2014 measurement date for its 2015 reporting.

The impact of experience gains or losses and assumption changes on the TPL are recognized in the Pension Expense over the average expected remaining service life of all active and inactive members of the Plan, determined as of the beginning of the measurement period. As of June 30, 2013, this average was 2.40 years[1], which was rounded to 2.00 for recognition purposes. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of approximately $2.6 million. Approximately $0.5 million of that was recognized in the current year and identical amounts will be recognized in each of the next four years, resulting in a Deferred Inflow of Resources of approximately $2.1 million. The table below summarizes the current balances of Deferred Outflows and Deferred Inflows of Resources along with the net recognition over the next several years.

Table 7
Schedule of Deferred Inflows and Outflows
As of June 30, 2014

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 0	$ 0
Changes in assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	0	2,068,858
Total	**$ 0**	**$ 2,068,858**

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:

2015	$ (517,215)
2016	$ (517,215)
2017	$ (517,215)
2018	$ (517,213)
2019	$ 0
Thereafter	$ 0

---

[1] The average expected future working lifetime for 2,101 active members was 4.88 years.

STATE REPORTING AMOUNTS

The Pension Expense of the Plan can be calculated two different ways. First, it is the change in the amounts reported on the State's Statement of Net Position that relate to the Plan and are not attributable to the State contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus State contributions.

Alternatively, the Pension Expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of Pension Expense.

Table 8 Calculation of Pension Expense For the Fiscal Year Ending June 30, 2014	
Change in Net Pension Liability	$ (3,416,915)
Change in Deferred Outflows	0
Change in Deferred Inflows	2,068,858
Non-Employer Contributions	1,818,237
Employer Contributions	0
Pension Expense	**$ 470,180**
Pension Expense as % of Pensionable Payroll	**N/A**
Operating Expenses	
Service cost	$ 237,639
Employee contributions	0
Administrative expenses	136,079
Total	$ 373,718
Financing Expenses	
Interest cost	$ 2,843,095
Expected return on assets	(2,229,418)
Total	$ 613,677
Changes	
Benefit changes	$ 0
Recognition of assumption changes	0
Recognition of liability (gains)/losses	0
Recognition of investment (gains)/losses	(517,215)
Total	$ (517,215)
Pension Expense	**$ 470,180**

STATE REPORTING AMOUNTS

First, there are components that we refer to as operating expenses. These items are directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in the State-provided benefits attributable to the year, and administrative expenses are the cost of operating the Plan for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is just the interest on the Net Pension Liability, service cost, contributions, and administrative expenses. The calculation of the expected return on assets is detailed below.

Table 9 Calculation of Expected Return on Assets For the Fiscal Year Ending June 30, 2014		
Market Value of Assets - beginning of year	$	29,067,228
Expected Return on Market Value	$	2,252,710
Employee Contributions	$	0
Non-Employer Contributions		1,818,237
Employer Contributions		0
Benefit Payments		(2,294,676)
Administrative Expenses		(136,079)
Net Cash Flow - during year	$	(612,518)
Expected Return on Cash Flow Items	$	(23,292)
Expected Return on Assets	**$**	**2,229,418**

The final category is changes. This category will drive most of the volatility in Pension Expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses. For the first year, there is an investment gain recognized that offsets a large portion of the financing expense.

APPENDIX A
GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Covered-Employee Payroll

The payroll of employees that are provided with pensions through the pension plan.[2]

4. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

5. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability or investment losses that are recognized in future reporting periods.

6. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

---

[2] This payroll includes all pay to employees, whether or not included in pensionable pay. MPERA has advised that Covered-Employee Payroll is not available. Therefore, pensionable payroll has been used throughout this report. Payroll is not applicable in calculations under VFCA.

APPENDIX A
GLOSSARY OF TERMS

7. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the Plan.

8. Net Pension Liability

The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

9. Pension Expense

The economic cost of pensions that an entity recognizes during a reporting period.

10. Plan Fiduciary Net Position

The fair or market value of assets.

11. Reporting Date

The last day of the Plan or employer's fiscal year.

12. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

13. Special Funding Situation

Circumstances in which a non-employer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity and either (i) the amount of such contributions is not dependent upon one or more events or circumstances unrelated to pensions, or (ii) the non-employer entity is the only entity with a legal obligation to make contributions directly to the pension plan.

14. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the Entry Age Actuarial Cost Method.

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 1 - Projection of Contributions
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)

	Projected Pensionable Payroll			Projected Rates			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Employee Rate (d)	Employer Rate (e)	Rate Available for Amortization (f)	Member Contributions for Current Employees (g) = (a) x (d)	State Contributions for Current Employees (h) = (a) x (e)	Contributions Related to Payroll of Future Employees (i) = (b) x (f)	Total Contributions (j) = (g) + (h) + (i)
1	N/A	N/A	N/A				N/A	N/A	N/A	$ 1,818
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
48	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818

CHEIRON

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 1 - Projection of Contributions Continued
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)

Year	Projected Pensionable Payroll			Projected Rates			Projected Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Employee Rate (d)	Employer Rate (e)	Rate Available for Amortization (f)	Member Contributions for Current Employees (g) = (a) x (d)	State Contributions for Current Employees (h) = (a) x (e)	Contributions Related to Payroll of Future Employees (i) = (b) x (f)	Total Contributions (j) = (g) + (h) + (i)
60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
93	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818
109	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,818

CHEIRON

16

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 2 - Projection of the Pension Plan's Fiduciary Net Position
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 1 - Projection of Contributions, column (j)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
1	$ 29,067	$ 1,818	$ 2,295	$ 136	$ 4,815	$ 33,270
2	33,270	1,818	2,951	63	2,533	34,607
3	34,607	1,818	3,143	66	2,629	35,845
4	35,845	1,818	3,046	64	2,729	37,283
5	37,283	1,818	3,115	65	2,838	38,758
6	38,758	1,818	3,179	67	2,949	40,281
7	40,281	1,818	3,248	68	3,065	41,848
8	41,848	1,818	3,306	69	3,184	43,475
9	43,475	1,818	3,349	70	3,308	45,182
10	45,182	1,818	3,388	71	3,439	46,981
11	46,981	1,818	3,404	71	3,578	48,901
12	48,901	1,818	3,417	72	3,726	50,957
13	50,957	1,818	3,421	72	3,885	53,168
14	53,168	1,818	3,414	72	4,057	55,557
15	55,557	1,818	3,381	71	4,244	58,167
16	58,167	1,818	3,329	70	4,448	61,034
17	61,034	1,818	3,275	69	4,672	64,181
18	64,181	1,818	3,220	68	4,918	67,629
19	67,629	1,818	3,160	66	5,188	71,409
20	71,409	1,818	3,087	65	5,483	75,558
21	75,558	1,818	3,000	63	5,808	80,122
22	80,122	1,818	2,911	61	6,166	85,133
23	85,133	1,818	2,819	59	6,557	90,630
24	90,630	1,818	2,722	57	6,987	96,656
25	96,656	1,818	2,624	55	7,458	103,253
26	103,253	1,818	2,519	53	7,973	110,473
27	110,473	1,818	2,417	51	8,537	118,361
28	118,361	1,818	2,308	48	9,153	126,976
29	126,976	1,818	2,201	46	9,824	136,371
30	136,371	1,818	2,095	44	10,557	146,606
31	146,606	1,818	1,987	42	11,354	157,750
32	157,750	1,818	1,882	40	12,222	169,868
33	169,868	1,818	1,773	37	13,165	183,041
34	183,041	1,818	1,675	35	14,190	197,338
35	197,338	1,818	1,572	33	15,302	212,853
36	212,853	1,818	1,469	31	16,508	229,680
37	229,680	1,818	1,371	29	17,816	247,914
38	247,914	1,818	1,279	27	19,233	267,660
39	267,660	1,818	1,190	25	20,767	289,030
40	289,030	1,818	1,102	23	22,426	312,149
41	312,149	1,818	1,016	21	24,221	337,151
42	337,151	1,818	934	20	26,162	364,178
43	364,178	1,818	856	18	28,260	393,382
44	393,382	1,818	783	16	30,526	424,926
45	424,926	1,818	715	15	32,973	458,987
46	458,987	1,818	652	14	35,615	495,755
47	495,755	1,818	593	12	38,467	535,435
48	535,435	1,818	538	11	41,544	578,249
49	578,249	1,818	488	10	44,864	624,434
50	624,434	1,818	441	9	48,446	674,248
51	674,248	1,818	397	8	52,308	727,968
52	727,968	1,818	357	7	56,473	785,895
53	785,895	1,818	320	7	60,964	848,351
54	848,351	1,818	285	6	65,805	915,683
55	915,683	1,818	254	5	71,025	988,266
56	988,266	1,818	225	5	76,651	1,066,506
57	1,066,506	1,818	198	4	82,716	1,150,838
58	1,150,838	1,818	174	4	89,252	1,241,731
59	1,241,731	1,818	151	3	96,297	1,339,692

CHEIRON

17

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 2 - Projection of the Pension Plan's Fiduciary Net Position Continued
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 1 - Projection of Contributions, column (j)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
60	1,339,692	1,818	131	3	103,890	1,445,267
61	1,445,267	1,818	113	2	112,073	1,559,043
62	1,559,043	1,818	96	2	120,891	1,681,654
63	1,681,654	1,818	81	2	130,394	1,813,783
64	1,813,783	1,818	68	1	140,635	1,956,166
65	1,956,166	1,818	57	1	151,670	2,109,596
66	2,109,596	1,818	47	1	163,561	2,274,928
67	2,274,928	1,818	38	1	176,375	2,453,082
68	2,453,082	1,818	31	1	190,182	2,645,050
69	2,645,050	1,818	24	1	205,060	2,851,904
70	2,851,904	1,818	19	0	221,091	3,074,793
71	3,074,793	1,818	15	0	238,365	3,314,962
72	3,314,962	1,818	11	0	256,978	3,573,747
73	3,573,747	1,818	8	0	277,034	3,852,591
74	3,852,591	1,818	6	0	298,645	4,153,048
75	4,153,048	1,818	4	0	321,930	4,476,792
76	4,476,792	1,818	0	0	347,021	4,825,631
77	4,825,631	1,818	0	0	374,056	5,201,505
78	5,201,505	1,818	0	0	403,186	5,606,509
79	5,606,509	1,818	0	0	434,574	6,042,901
80	6,042,901	1,818	0	0	468,394	6,513,113
81	6,513,113	1,818	0	0	504,835	7,019,767
82	7,019,767	1,818	0	0	544,101	7,565,686
83	7,565,686	1,818	0	0	586,410	8,153,914
84	8,153,914	1,818	0	0	631,997	8,787,730
85	8,787,730	1,818	0	0	681,118	9,470,666
86	9,470,666	1,818	0	0	734,046	10,206,530
87	10,206,530	1,818	0	0	791,075	10,999,424
88	10,999,424	1,818	0	0	852,524	11,853,766
89	11,853,766	1,818	0	0	918,736	12,774,321
90	12,774,321	1,818	0	0	990,079	13,766,218
91	13,766,218	1,818	0	0	1,066,951	14,834,987
92	14,834,987	1,818	0	0	1,149,781	15,986,586
93	15,986,586	1,818	0	0	1,239,030	17,227,434
94	17,227,434	1,818	0	0	1,335,195	18,564,447
95	18,564,447	1,818	0	0	1,438,814	20,005,079
96	20,005,079	1,818	0	0	1,550,463	21,557,361
97	21,557,361	1,818	0	0	1,670,765	23,229,943
98	23,229,943	1,818	0	0	1,800,390	25,032,151
99	25,032,151	1,818	0	0	1,940,061	26,974,030
100	26,974,030	1,818	0	0	2,090,557	29,066,405
101	29,066,405	1,818	0	0	2,252,716	31,320,939
102	31,320,939	1,818	0	0	2,427,442	33,750,199
103	33,750,199	1,818	0	0	2,615,710	36,367,727
104	36,367,727	1,818	0	0	2,818,568	39,188,113
105	39,188,113	1,818	0	0	3,037,148	42,227,079
106	42,227,079	1,818	0	0	3,272,668	45,501,565
107	45,501,565	1,818	0	0	3,526,440	49,029,824
108	49,029,824	1,818	0	0	3,799,880	52,831,523
109	52,831,523	1,818	0	0	4,094,512	56,927,853

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 3 - Actuarial Present Values of Projected Benefit Payments
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)
** From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

Year (a)	Projected Beginning Fiduciary Net Position * (b)	Projected Benefit Payments for current plan participants ** (c)	"Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c)	"Unfunded" Portion of Benefit Payments (e) = (c) - (d)	Present Value of "Funded" Benefit Payments (f) = (d) / (1+ 7.75%)^(a)	Present Value of "Unfunded" Benefit Payments (g) = (e)/(1+4.29%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c)/(1+ 7.75%)^(a)
1	$ 29,067	$ 2,295	$ 2,295	$ 0	$ 2,130	$ 0	$ 2,130
2	33,270	2,951	2,951	0	2,542	0	2,542
3	34,607	3,143	3,143	0	2,512	0	2,512
4	35,845	3,046	3,046	0	2,259	0	2,259
5	37,283	3,115	3,115	0	2,145	0	2,145
6	38,758	3,179	3,179	0	2,031	0	2,031
7	40,281	3,248	3,248	0	1,926	0	1,926
8	41,848	3,306	3,306	0	1,819	0	1,819
9	43,475	3,349	3,349	0	1,711	0	1,711
10	45,182	3,388	3,388	0	1,606	0	1,606
11	46,981	3,404	3,404	0	1,498	0	1,498
12	48,901	3,417	3,417	0	1,395	0	1,395
13	50,957	3,421	3,421	0	1,296	0	1,296
14	53,168	3,414	3,414	0	1,201	0	1,201
15	55,557	3,381	3,381	0	1,103	0	1,103
16	58,167	3,329	3,329	0	1,008	0	1,008
17	61,034	3,275	3,275	0	921	0	921
18	64,181	3,220	3,220	0	840	0	840
19	67,629	3,160	3,160	0	765	0	765
20	71,409	3,087	3,087	0	694	0	694
21	75,558	3,000	3,000	0	626	0	626
22	80,122	2,911	2,911	0	564	0	564
23	85,133	2,819	2,819	0	506	0	506
24	90,630	2,722	2,722	0	454	0	454
25	96,656	2,624	2,624	0	406	0	406
26	103,253	2,519	2,519	0	362	0	362
27	110,473	2,417	2,417	0	322	0	322
28	118,361	2,308	2,308	0	285	0	285
29	126,976	2,201	2,201	0	253	0	253
30	136,371	2,095	2,095	0	223	0	223
31	146,606	1,987	1,987	0	196	0	196
32	157,750	1,882	1,882	0	173	0	173
33	169,868	1,773	1,773	0	151	0	151
34	183,041	1,675	1,675	0	132	0	132
35	197,338	1,572	1,572	0	115	0	115
36	212,853	1,469	1,469	0	100	0	100
37	229,680	1,371	1,371	0	87	0	87
38	247,914	1,279	1,279	0	75	0	75
39	267,660	1,190	1,190	0	65	0	65
40	289,030	1,102	1,102	0	56	0	56
41	312,149	1,016	1,016	0	48	0	48
42	337,151	934	934	0	41	0	41
43	364,178	856	856	0	35	0	35
44	393,382	783	783	0	29	0	29
45	424,926	715	715	0	25	0	25
46	458,987	652	652	0	21	0	21
47	495,755	593	593	0	18	0	18
48	535,435	538	538	0	15	0	15
49	578,249	488	488	0	13	0	13
50	624,434	441	441	0	11	0	11
51	674,248	397	397	0	9	0	9
52	727,968	357	357	0	7	0	7
53	785,895	320	320	0	6	0	6
54	848,351	285	285	0	5	0	5
55	915,683	254	254	0	4	0	4
56	988,266	225	225	0	3	0	3
57	1,066,506	198	198	0	3	0	3
58	1,150,838	174	174	0	2	0	2
59	1,241,731	151	151	0	2	0	2

APPENDIX B
DEVELOPMENT OF DISCOUNT RATE

Table 3 - Actuarial Present Values of Projected Benefit Payments Continued
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)
** From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

Year (a)	Projected Beginning Fiduciary Net Position * (b)	Projected Benefit Payments for current plan participants ** (c)	"Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c)	"Unfunded" Portion of Benefit Payments (e) = (c) - (d)	Present Value of "Funded" Benefit Payments (f) = (d) / (1+ 7.75%)^(a)	Present Value of "Unfunded" Benefit Payments (g) = (e)/(1+4.29%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c)/(1+ 7.75%)^(a)
60	1,339,692	131	131	0	1	0	1
61	1,445,267	113	113	0	1	0	1
62	1,559,043	96	96	0	1	0	1
63	1,681,654	81	81	0	1	0	1
64	1,813,783	68	68	0	1	0	1
65	1,956,166	57	57	0	0	0	0
66	2,109,596	47	47	0	0	0	0
67	2,274,928	38	38	0	0	0	0
68	2,453,082	31	31	0	0	0	0
69	2,645,050	24	24	0	0	0	0
70	2,851,904	19	19	0	0	0	0
71	3,074,793	15	15	0	0	0	0
72	3,314,962	11	11	0	0	0	0
73	3,573,747	8	8	0	0	0	0
74	3,852,591	6	6	0	0	0	0
75	4,153,048	4	4	0	0	0	0
76	4,476,792	0	0	0	0	0	0
77	4,825,631	0	0	0	0	0	0
78	5,201,505	0	0	0	0	0	0
79	5,606,509	0	0	0	0	0	0
80	6,042,901	0	0	0	0	0	0
81	6,513,113	0	0	0	0	0	0
82	7,019,767	0	0	0	0	0	0
83	7,565,686	0	0	0	0	0	0
84	8,153,914	0	0	0	0	0	0
85	8,787,730	0	0	0	0	0	0
86	9,470,666	0	0	0	0	0	0
87	10,206,530	0	0	0	0	0	0
88	10,999,424	0	0	0	0	0	0
89	11,853,766	0	0	0	0	0	0
90	12,774,321	0	0	0	0	0	0
91	13,766,218	0	0	0	0	0	0
92	14,834,987	0	0	0	0	0	0
93	15,986,586	0	0	0	0	0	0
94	17,227,434	0	0	0	0	0	0
95	18,564,447	0	0	0	0	0	0
96	20,005,079	0	0	0	0	0	0
97	21,557,361	0	0	0	0	0	0
98	23,229,943	0	0	0	0	0	0
99	25,032,151	0	0	0	0	0	0
100	26,974,030	0	0	0	0	0	0
101	29,066,405	0	0	0	0	0	0
102	31,320,939	0	0	0	0	0	0
103	33,750,199	0	0	0	0	0	0
104	36,367,727	0	0	0	0	0	0
105	39,188,113	0	0	0	0	0	0
106	42,227,079	0	0	0	0	0	0
107	45,501,565	0	0	0	0	0	0
108	49,029,824	0	0	0	0	0	0
109	52,831,523	0	0	0	0	0	0
					$ 36,856	$ 0	$ 36,856