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**GASB STATEMENT NO. 74 REPORT**  
**FOR THE**  
**MISSISSIPPI STATE AND SCHOOL EMPLOYEES'**  
**LIFE AND HEALTH INSURANCE PLAN**  
**PREPARED AS OF JUNE 30, 2018**





# Cavanaugh Macdonald

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March 1, 2019

Board of Trustees

Mississippi State and School Employees' Health Insurance Management Board

P. O. Box 24208

Jackson, MS 39225

Members of the Board:

Presented in this report is information to assist the Mississippi State and School Employees' Life and Health Insurance Plan's (SSELHIP) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 74 for the Life and Health Insurance Plan (Plan). GASB Statement No. 74 (GASB 74) is the accounting standard that applies to the financial reports issued by other postemployment benefits (OPEB) plans. This report has been prepared by the SSELHIP's actuary, Cavanaugh Macdonald Consulting (CMC), as of June 30, 2018 (Measurement Date).

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of June 30, 2018 (Valuation Date). The valuation was based on data, provided by the Public Employees' Retirement System (PERS) and Plan staff for active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency, but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the Plan, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the Plan. In addition, the calculations were completed in compliance with the laws governing the Plan and, in our opinion, meet the requirements of GASB 74. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 74 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

If you have any questions, please call us at 678-388-1700.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, FCA, EA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Jonathan T. Craven'.

Jonathan T. Craven, ASA, EA, FCA, MAAA  
Consulting Actuary



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**Section I – Summary of Principal Results**

**REPORT OF THE ANNUAL GASB STATEMENT NO. 74  
REQUIRED INFORMATION FOR THE  
MISSISSIPPI STATE AND SCHOOL EMPLOYEES'  
LIFE AND HEALTH INSURANCE PLAN**

**PREPARED AS OF JUNE 30, 2018**

<b>Valuation Date (VD):</b>	June 30, 2018
<b>Prior Measurement Date:</b>	June 30, 2017
<b>Measurement Date (MD):</b>	June 30, 2018
<b>Membership Data as of Valuation Date:</b>	
Covered Retirees in Medical	25,562
Covered Retirees in Life Only	7,122
Active Members	<u>108,918</u>
Total Membership	141,602
<b>Discount Rate:</b>	
Long-Term Expected Rate of Return	4.50%
Municipal Bond Index Rate at Prior Measurement Date	3.56%
Municipal Bond Index Rate at Measurement Date	3.89%
Year in which Fiduciary Net Position is Projected to be Depleted	2018
Single Equivalent Interest Rate (SEIR) at Prior Measurement Date	3.56%
Single Equivalent Interest Rate (SEIR) at Measurement Date	3.89%
<b>Net OPEB Liability as of Measurement Date (\$ thousands):</b>	
Total OPEB Liability (TOL)	\$ 774,550
Fiduciary Net Position (FNP)	<u>1,000</u>
Net OPEB Liability (NOL = TOL – FNP)	\$ 773,550
FNP as a percentage of TOL	0.13%



## ***Section II – Introduction***

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The Governmental Accounting Standards Board issued Statement No. 74 (GASB 74), “*Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*” in June 2015. GASB 74’s effective date is for a plan’s fiscal year beginning after June 15, 2016. Under GASB 75, if a cost-sharing employer provides OPEB through a defined benefit plan for which financial statements are not publicly available on the Internet, the employer is required to disclose information about the OPEB plan’s fiduciary net position in its own financial statements. For the purposes of reporting under GASB 74, the Plan is assumed to be a cost sharing-employer, defined benefit OPEB plan where assets are accumulated in a trust that meets the criteria in paragraph 3 of GASB 74. This report, prepared as of June 30, 2018 (Measurement Date or MD), presents information to assist the Plan in meeting the requirements of GASB 74.

GASB 74 replaced GASB 43, which was more closely tied to funding efforts in that it required OPEB plans to report items consistent with the results of a plan’s actuarial valuations, as long as those valuations met certain parameters. GASB 74 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the plan.

GASB 74 requires the determination of the Total OPEB Liability (TOL) utilizing the Entry Age Normal (EAN) actuarial cost method. The Net OPEB Liability (NOL) is then set equal to the TOL minus the plan’s Fiduciary Net Position (FNP) (basically the market value of assets as of the Measurement Date). The plan provisions recognized in the calculation of the TOL are summarized in Schedule B.

Among the items needed for the liability calculation is the discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan’s provisions applicable to the membership and beneficiaries of the Plan on the Measurement Date. Future contributions are to be projected in accordance with a plan’s funding policy and/or the application of professional judgment to consider the recent contribution history of the employers and non-employer contributing entities. If the FNP is not projected to be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.



## ***Section II – Introduction***

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If, however, at a future measurement date, the FNP is projected to be depleted, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The Municipal Bond Index Rate used, if necessary, for this purpose is the average of the Bond Buyer General Obligation 20-year Municipal Bond Index Rates during the month of June published at the end of each week by the Bond Buyer. The trust was established on June 28, 2018 with a \$1,000,000 contribution. Using the test as described above, we have determined the trust will be depleted in 2018, so the Municipal Bond Index Rate is used in the determination of the SEIR. Please see Paragraph 35(b) in the GASB 74 section for more explanation into the development of the SEIR.

The funded status measurements included in this report are based on the assumptions and methods used to determine the Plan's obligations and asset values as of the Valuation Date and/or Measurement Date under GASB accounting rules. Funded status measurements for financial accounting purposes may not be appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. Likewise, funded status measurements for financial accounting purposes may not be appropriate for assessing the need for or the amount of future actuarially determined contributions.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 74, for note disclosure and Required Supplementary Information (RSI).



**Section III – Financial Statement Notes**

The material presented herein will follow the order presented in GASB 74. There are non-actuarial items required which are not included in this report. Paragraph numbers are provided for ease of reference.

**Paragraphs 34(a)(1)-(3):** CMC was not expected to supply this information.

**Paragraph 34(a)(4):** The data required regarding the membership of the Plan was furnished by the System. The following table summarizes the membership of the Plan as of June 30, 2018, the Valuation Date.

**Membership**

Group	Total
Retired members and surviving spouses currently receiving retiree health benefits	25,562
Retired members receiving life insurance only	7,122
Active Participants	<u>108,918</u>
Total	141,602

**Paragraphs 34(a)(5)-(6) and 34(b)-(e):** CMC was not expected to supply this information.

**Paragraph 35(a)(1)-(4):** The information is provided in the following table. As stated previously, the NPL is equal to the TOL minus the FNP. That result as of June 30, 2018, the Measurement Date, is presented in the table below (\$ thousands).

Measurement Date of June 30, 2018	
TOL	\$ 774,550
FNP	<u>1,000</u>
NOL	\$ 773,550
Ratio of FNP to TOL	0.13%





### ***Section III – Financial Statement Notes***

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**Paragraph 35(b):** Listed below is the information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Schedule C. The TOL was determined by an actuarial valuation as of June 30, 2018, using the following key actuarial assumptions and other inputs:

Inflation	3.00%
Salary increases, including wage inflation	3.25% - 18.50%
Long-term Investment Rate of Return, net of OPEB plan investment expense, including inflation	4.50%
Municipal Bond Index Rate	
Measurement Date	3.89%
Prior Measurement Date	3.56%
Year FNP is projected to be depleted	
Measurement Date	2018
Prior Measurement Date	2017
Single Equivalent Interest Rate, net of OPEB plan investment expense, including price inflation	
Measurement Date	3.89%
Prior Measurement Date	3.56%
Health Care Cost Trends	
Medicare Supplement Claims	
Pre-Medicare	7.25% for 2018 decreasing to an ultimate rate of 4.75% by 2028

Both pre-retirement and post-retirement mortality rates were based on the RP 2014 Healthy Annuitant Blue Collar Table projected with Scale BB to 2022, male rates set forward 1 year and adjusted by 106% for males at all ages, and females adjusted to 90% for ages less than 76, 95% for age 76, 105% for age 78 and 110% for ages 79 and greater. Post-disability mortality rates were based on the RP 20144 Disabled Retiree Mortality Table set forward 4 years for males and 3 years for females.

The demographic actuarial assumptions used in the June 30, 2018 valuation were based on the results of the last actuarial experience study, dated April 18, 2017.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, rate of plan participation, rates of plan election, etc.) used in the June 30, 2018 valuation were based on a review of recent plan experience done concurrently with the June 30, 2018 valuation.



### Section III – Financial Statement Notes

The long-term expected return on plan assets is reviewed as part of the GASB 74 valuation process. Since there were no assets in a trust fund on the Measurement Date, there is no long-term expected return determination. We have assumed the Municipal Bond Index of 3.89% as of the Measurement Date.

*Discount rate (SEIR).* The discount rate used to measure the TOL as of the Measurement Date was 3.89%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB 74. The projection’s basis was an actuarial valuation performed as of June 30, 2018.

Based on these assumptions, the Plan’s FNP was projected to be depleted in 2018 and, as a result, the Municipal Bond Index Rate, 3.89%, was used in the determination of the SEIR.

The FNP projections are based upon the Plan’s financial status on the Valuation Date, the indicated set of methods and assumptions, and the requirements of GASB 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the Plan, or the Plan’s ability to make benefit payments in future years.

**Paragraphs 35(b)(1) and 35(b)(2)(g):** These paragraph require disclosure of the sensitivity of the NOL to changes in the health care cost trend rates and the discount rate. The following exhibit presents the NOL of the Plan, calculated using the health care cost trend rates, as well as what the Plan’s NOL would be if it were calculated using a health care cost trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate. Similarly, the exhibit presents the NOL of the Plan, calculated using the discount rate of 3.89%, as well as what the Plan’s NOL would be if it were calculated using a Discount Rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate (\$ thousands):

Net OPEB Liability			
Discount Rate	Health Care Cost Trend Rates		
	1% Decrease	Current	1% Increase
1% Increase (4.89%)		\$ 701,384	
Current (3.89%)	\$ 716,563	\$ 773,550	\$ 838,271
1% Decrease (2.89%)		\$ 857,461	



### Section III – Financial Statement Notes

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**Paragraph 35(c):** The date of the actuarial valuation upon which the TOL is based is June 30, 2018 so no roll forward is needed. However, the expected TOL as of June 30, 2018 using last year's SEIR is determined using standard roll forward techniques. The roll forward calculation adds the normal cost for the fiscal year ending in 2018 (also called the service cost), subtracts the actual benefit payments and refunds for the same period, and then applies the expected SEIR for the period. This procedure was used to determine the expected TOL as of June 30, 2018, as shown in the following table. The impact of measuring the liabilities using a discount rate of 3.56% as opposed to the 3.89% used at the end of the period is shown as an assumption gain.

TOL Roll-Forward (\$ thousands)	
(a) Interest Rate (SEIR)	3.56%
(b) TOL as of June 30, 2017	\$784,609
(c) Entry Age Service Cost for the period July 1, 2017 – June 30, 2018	20,467
(d) Actual Benefit Payments for the period July 1, 2017 – June 30, 2018	\$33,449
(e) Expected TOL as of June 30, 2018 = [(b) x (1 + (a))] + (c) – [(d) x (1 + (a)) <sup>1/2</sup> ]	\$798,964
(f) Actual TOL as of June 30, 2018 at 3.56%	\$800,831
(g) Final TOL as of June 30, 2018 at 3.89%	\$774,550
(h) Experience (Gain)/Loss: (f) – (e)	\$1,867
(i) Assumption Change (Gain)/Loss: (g) – (f)	\$(26,281)



## ***Section IV – Required Supplementary Information***

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The material presented herein will follow the order presented in GASB 74. Paragraph numbers are provided for ease of reference.

**Paragraphs 36(a)-(c):** The required tables of schedules are provided in Schedule A.

**Paragraph 36(d):** Since the trust was set up on June 28, 2018, there is no annual money-weighted rates of return as of June 30, 2018.

**Paragraph 38:** Information regarding changes to benefit terms and changes to assumptions or other inputs should be noted regarding the RSI. The information should be listed by the date for which the indicated change was first reflected in reported amounts.

***Changes to benefit terms:*** None.

***Changes in actuarial assumptions and methods:*** The SEIR was changed from 3.56% for the prior Measurement Date to 3.89% for the current Measurement Date.



***Section IV – Required Supplementary Information (continued)***

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***Methods and assumptions used in calculations of Actuarially Determined Contributions.*** The Actuarially Determined Contribution rates, as a percentage of payroll, used to determine the Actuarially Determined Contribution amounts in the Schedule of Employer Contributions (Schedule A) are calculated as of the most recent Valuation Date. The following actuarial methods and assumptions (from the June 30, 2017 actuarial valuation) were used to determine contribution rates reported in that schedule for the year ending June 30, 2018:

Actuarial cost method	Entry age
Amortization method	Level dollar
Amortization period	30 years, open
Asset valuation method	Market Value of Assets
Price inflation	3.00%
Salary increases, including wage inflation	3.25% to 18.50%
Initial health care cost trend rates	
Medicare Supplement Claims – Pre Medicare	7.75%
Ultimate health care cost trend rates	
Medicare Supplement Claims – Pre Medicare	5.00%
Year of ultimate trend rates	
Medicare Supplement Claims – Pre Medicare	2023
Long-term investment rate of return, net of pension plan investment expense, including price inflation	3.56%



**Schedule A – Required Supplementary Information**

**SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY  
GASB 74 Paragraph 36(a)  
(\$ thousands)**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total OPEB Liability</b>										
Service Cost at end of year	\$20,467	\$21,841								
Interest	27,337	24,112								
Changes of benefit terms	0	0								
Difference between expected and actual experience	1,867	0								
Changes of assumptions or other inputs	(26,281)	(46,961)								
Benefit payments	(33,449)	(30,872)								
<b>Net change in Total OPEB Liability</b>	<b>\$(10,059)</b>	<b>\$(31,880)</b>								
<b>Total OPEB Liability – beginning</b>	<b>\$784,609</b>	<b>\$816,489</b>								
<b>Total OPEB Liability – ending (a)</b>	<b>\$774,550</b>	<b>\$784,609</b>								
<b>Plan Fiduciary Net Position</b>										
Contributions – employer	\$34,449	\$30,872								
Contributions – active member	0	0								
Net investment income	0	0								
Benefit payments	(33,449)	(30,872)								
Administrative expense	0	0								
Other	0	0								
<b>Net change in Plan Fiduciary Net Position</b>	<b>\$1,000</b>	<b>\$0</b>								
<b>Plan Fiduciary Net Position – beginning</b>	<b>\$0</b>	<b>\$0</b>								
<b>Plan Fiduciary Net Position –ending (b)</b>	<b>\$1,000</b>	<b>\$0</b>								
<b>Net OPEB Liability –ending (a) – (b)</b>	<b>\$773,550</b>	<b>\$784,609</b>								



**Schedule A – Required Supplementary Information**

**SCHEDULE OF THE NET OPEB LIABILITY  
GASB 74 Paragraph 36(b)  
(\$ thousands)**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB Liability	\$774,550	\$784,609								
Plan Fiduciary Net Position	\$1,000	0								
Net OPEB Liability	\$773,550	\$784,609								
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	0.13%	0.00%								
Covered payroll	\$4,522,932	\$4,492,725								
Net OPEB Liability as a percentage of covered payroll	17.10%	17.46%								



***Schedule A – Required Supplementary Information***

**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
GASB 74 Paragraph 36(c)  
(\$ thousands)**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Employer Contribution	\$47,070	\$43,673	\$47,297	\$48,308	\$43,939	\$44,906	\$46,131	\$51,735	\$55,991	\$43,025
Contributions in relation to the Actuarially Determined Contribution	34,449	30,872	32,270	32,245	30,503	29,490	20,570	18,365	35,154	35,375
Annual contribution deficiency (excess)	\$12,621	\$12,801	\$15,027	\$16,063	\$13,436	\$15,416	\$25,561	\$33,370	\$20,837	\$7,650
Covered Payroll	\$4,522,932	\$4,492,725	\$4,552,979	\$4,617,302	\$4,406,047	\$4,425,943	\$4,312,956	\$4,238,716	\$4,470,558	\$4,613,682
Actual contributions as a percentage of covered payroll	0.76%	0.69%	0.71%	0.70%	0.69%	0.67%	0.48%	0.43%	0.79%	0.77%





## ***Schedule B – Summary of Main Plan Provisions***

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**ELIGIBILITY:** Eligible retirees will include State and School employees retiring from the State of Mississippi and electing coverage at retiree contribution rates.

**RETIREMENT:**

**Highway Safety Patrol\*:** Any age with 25 years of service  
Age 55 with at least 5 years of service, or  
Age 45 with at least 20 years of service.

**General State and School Employees Hired before July 1, 2011:**  
Hired before 7/1/2007 Any age with 25 years of service or  
Age 60 with at least 4 years of service.  
Hired after 7/1/2007 Age 60 with at least 8 years of service.

**General State and School Employees Hired on or after July 1, 2011:**  
Any age with 30 years of service or  
Age 60 with at least 8 years of service.

\*Any Highway Safety Patrolman who has attained age 60 shall be retired forthwith. Effective January 1, 2000, the Commissioner of Public Safety is authorized to allow a member who has attained age 60 to continue in active service. Such continued service may be authorized annually until the member attains age 65.

**DUTY DISABILITY RETIREMENT:** No age or service requirements.

**NON-DUTY DISABILITY RETIREMENT:**

**Highway Safety Patrol:** Any age with 5 years of service

**General State and School Employees:**  
Hired before 7/1/2007 Any age with 4 years of service  
Hired after 7/1/2007 Any age with 8 years of service



**Schedule B – Summary of Main Plan Provisions**

**RETIREE CONTRIBUTIONS:** No contributions towards postemployment benefits are made while in active service. At retirement contributions vary based on plan election, dependent coverage, and Medicare eligibility and date of hire. The following tables show the schedule of monthly retiree contributions as of January 1, 2019.

**Legacy Employees (initially hired prior to January 1, 2006)**

	Not Medicare Eligible (healthy or disabled)		Medicare Eligible (healthy or disabled)
	Base Coverage	Select Coverage	Select Coverage*
Retiree	\$ 421	\$ 445	\$ 188
Retiree + Spouse (Non-Medicare)	881	969	712
Retiree + Spouse + Child(ren) (Non-Medicare)	1,123	1,211	954
Retiree + Child	540	605	348
Retiree + Children	727	766	509
Retiree + Spouse (Medicare)	N/A	633	376
Retiree + Spouse + Child(ren) (at least one Medicare)	N/A	793	536

**Horizon Employees (initially hired January 1, 2006 and later)**

	Not Medicare Eligible (healthy or disabled)		Medicare Eligible (healthy or disabled)
	Base Coverage	Select Coverage	Select Coverage*
Retiree	\$ 673	\$ 696	\$ 188
Retiree + Spouse (Non-Medicare)	1,349	1,436	712
Retiree + Spouse + Child(ren) (Non-Medicare)	1,508	1,595	954
Retiree + Child	792	856	348
Retiree + Children	979	1,017	509
Retiree + Spouse (Medicare)	N/A	884	376
Retiree + Spouse + Child(ren) (at least one Medicare)	N/A	1,044	536

\* Medicare eligible members do not have the Base Coverage option.



***Schedule B – Summary of Main Plan Provisions***

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**Life Insurance**

Rates vary by age. The following table shows monthly rates per \$1,000 of benefit at selected ages.

<b>Age</b>	<b>Rate</b>
40	\$ 0.20
45	0.31
50	0.52
55	0.85
60	1.50
65	2.25
70 and above	3.00



**Schedule B – Summary of Main Plan Provisions**

**SUMMARY OF KEY HEALTH CARE BENEFITS  
(Calendar Year 2019)**

**Base Coverage**

Benefits	In-Network Benefit Level	Out-of-Network Benefit Level
Deductible (single/family):	\$1,800/\$3,000 (per calendar year)	\$1,800/\$3,000 (per calendar year)
Coinsurance Maximum (single/family):	\$2,500/\$5,000 (per calendar year)	\$3,500/\$7,000 (per calendar year)
Coinsurance	Plan Pays 80% after deductible	Plan Pays 60% after deductible
Prescription Drugs:	\$12 Generic/\$45 Brand Formulary \$100 Brand Non-Formulary	

**Select Coverage**

Benefits	In-Network Benefit Level	Out-of-Network Benefit Level
Deductible (single/family):	\$1,000/\$2,000 (per calendar year)	\$2,000/\$4,000 (per calendar year)
Coinsurance Maximum (per individual):	\$2,500 (per calendar year)	\$3,500 (per calendar year)
Coinsurance	Plan Pays 80% after deductible	Plan Pays 60% after deductible
Prescription Drugs:	\$12 Generic/\$45 Brand Formulary \$100 Brand Non-Formulary	

Medicare eligible members are not offered the Base Coverage option. These members do not receive prescription drug coverage. Their benefits are coordinated with Medicare, but are not subject to the Select Coverage annual deductible.



## ***Schedule B – Summary of Main Plan Provisions***

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**LIFE INSURANCE FOR SERVICE RETIREES:** Service retirees are allowed to participate in the Life Insurance Plan at the rates shown in this report. Since July 1, 1999, retirees have been allowed to select a benefit of \$5,000, \$10,000 or \$20,000. Retirees who retired between May 1, 1987 and June 30, 1999, were allowed to select a benefit of \$2,000, \$4,000 or \$10,000. Prior to May 1, 1987, retirees were limited to a \$2,000 benefit.

**LIFE INSURANCE FOR DISABLED RETIREES:** Employees who participate in the Life Insurance Plan are covered under a waiver of contribution provision in the event of disability. The benefit provided to disabled retirees is equal to the amount of life insurance in effect at disability, after a nine month waiting period. At age 65, coverage converts to the same benefits provided to service retirees.



### ***Schedule C - Statement of Actuarial Assumptions and Methods***

**VALUATION DATE:** June 30, 2018

**DISCOUNT RATE:** 4.50% per annum, compounded annually.

**HEALTH CARE COST TREND RATES:** The following table shows assumed annual increases in medical and drug claims, as well as member contributions.

Year	Medical and Drug Claims	Member Contribution
2018-19	7.25%	5.50%
2019-20	7.00%	5.25%
2020-21	6.75%	5.25%
2021-22	6.50%	5.00%
2022-23	6.25%	5.00%
2023-24	6.00%	5.00%
2024-25	5.75%	5.00%
2025-26	5.50%	5.00%
2026-27	5.25%	5.00%
2027-28	5.00%	5.00%
2028-29	4.75%	5.00%

**ANNUAL EXPECTED MEDICAL/RX CLAIMS (AGE 65):** Assumed claims costs will vary by Select and Base (HDHP) plans. A distinction is made between retirees and spouses in determining expected claims costs.

Plan	Annual Claims at Age 65 for non-Medicare members	
	Retirees	Spouses
Select	\$11,361	\$10,967
Base	\$10,986	\$10,018

Once eligible for Medicare, the Plan charges retirees and spouses contributions sufficient to fund the cost of coverage. This has been done historically and is expected to continue. Contributions have been set close to the full cost; so there is no negative liability and there is no positive liability. This applies to healthy post-65 retirees/spouses and disabled retirees on Medicare.



### ***Schedule C - Statement of Actuarial Assumptions and Methods***

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For current retirees, actual life insurance benefit elections were provided by the Plan and were used to determine the liability for active employees. For future retirees, the following benefit elections were assumed for service retirement and disability retirement.

	<b>Benefit Amount</b>
Service Retirement	\$15,000
Disability Retirement	\$40,000

**AGE RELATED MORBIDITY:** Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

<b>Participant Age</b>	<b>Annual Increase</b>
29 and below	0.0%
30 - 34	1.0
35 - 39	1.5
40 - 44	2.0
45 - 49	2.6
50 - 54	3.3
55 - 59	3.6
60 - 64	4.2
65 and over	N/A



### ***Schedule C - Statement of Actuarial Assumptions and Methods***

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**ANTICIPATED PLAN PARTICIPATION:** Current inactive are assumed to maintain current plan and coverage elections. For current active employees, the following rates of participation will be assumed:

Coverage	At Retirement	Upon Disability
Medical/Rx	50%	50%
Life Insurance	25%	100%

Those electing coverage are assumed to have the following plan and spouse coverage elections:

Plan	Election Rate (Retirement)*	Spouse Coverage Rate
<b>Legacy Employees</b>		
Select Coverage	100%	25%
Base Coverage	0%	25%
<b>Horizon Employees</b>		
Select Coverage	80%	25%
Base Coverage	20%	25%

\* 100% Select elections are assumed at disability (Horizon and Legacy)

**ASSUMED AGE DIFFERENTIAL:** For current inactive, actual spouse ages were used; for current active employees, wives are assumed to be three years younger than their husbands.

**ACTUARIAL METHOD:** Costs were determined using the Entry Age Normal Actuarial Cost Method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would fund the cost of all benefits payable on his behalf. Service from hire date through date of last retirement eligibility was used in allocating costs.

**BENEFITS VALUED:** Life Insurance and Medical and Prescription Drug Benefits were valued in accordance with GASB 74 and 75. COBRA, while subject to evaluation under GASB 74/75, is assumed to result in a negligible liability. Benefits determined to produce a negligible liability are an allowable exclusion under GASB 74/75. Therefore, this valuation does not include an explicit COBRA liability.





**Schedule C - Statement of Actuarial Assumptions and Methods**

**Public Employees Retirement System of Mississippi**

**SEPARATIONS FROM ACTIVE SERVICE:** Representative values of the assumed rates of separation from active service are as follows:

Age	Annual Rates of					
	Withdrawal and Vesting*		Death		Disability	
	Male	Female	Male	Female	Male	Female
20	25.00%	30.00%	0.0256%	0.0080%	0.010%	0.009%
25	18.00	18.25	0.0306	0.0085	0.012	0.011
30	11.50	12.00	0.0286	0.0107	0.017	0.014
35	8.50	8.75	0.0330	0.0141	0.036	0.017
40	6.75	7.00	0.0397	0.0195	0.110	0.070
45	6.25	6.00	0.0615	0.0324	0.230	0.140
50	6.25	6.00	0.1065	0.0543	0.290	0.220
55	6.25	6.00	0.1761	0.0811	0.500	0.380
60	6.25	6.00	0.2868	0.1137	0.530	0.410
65	6.25	6.00	0.4862	0.1694	0.200	0.150
70	6.25	6.00	0.7656	0.2850	0.200	0.150
74	6.25	6.00	1.1226	0.4322	0.200	0.150

Age	Annual Rates of Service Retirements			
	Male		Female	
	Under 25 Years of Service**	25 Years of Service and Over**	Under 25 Years of Service**	25 Years of Service and Over**
45		21.75%		17.50%
50		14.50		12.50
55		18.25		19.00
60	10.25%	19.50	13.00%	22.25
62	20.25	32.00	18.75	37.50
65	24.00	29.50	28.75	42.50
70	20.00	25.00	24.00	25.50
75	100.00	100.00	100.00	100.00

\* For all ages, rates of 32.5% for 1<sup>st</sup> year of employment and 23.5% for 2<sup>nd</sup> year.

\*\* For Tier 4 members, 30 years of service.



## ***Schedule C - Statement of Actuarial Assumptions and Methods***

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### **Public Employees Retirement System of Mississippi**

**DEATH AFTER RETIREMENT:** The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the RP-2014 Healthy Annuitant Blue Collar Table projected with Scale BB to 2022 with male rates set forward one year and adjusted by 106% for males at all ages and as follows for females: 90% for ages less than 76, 95% for age 76, 105% for age 78 and 1.10% for ages 79 and greater. The RP-2014 Disabled Retiree Table set forward 4 years for males and 3 years for females was used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement. Mortality improvement is anticipated under this assumption as recent mortality experience shows actual deaths 11.2% greater than expected under the selected table for non-disability mortality and 10.5% greater than expected under the selected table for disability mortality.



**Schedule C - Statement of Actuarial Assumptions and Methods**

**Retirement System for the Mississippi Highway Safety Patrol**

**SEPARATIONS FROM ACTIVE SERVICE:** Representative values of the assumed rates of separation from active service are as follows:

Age	Withdrawal and Vesting	Death		Disability		Service	Service Retirement*
		Males	Females	Non-Duty	Duty		
25	5.60%	0.03%	0.01%	0.07%	0.00%	5	5%
30	4.00	0.03	0.01	0.09	0.01	10	5%
35	3.00	0.03	0.01	0.12	0.04	15	5%
40	2.00	0.04	0.02	0.15	0.05	20	5%
45	1.00	0.06	0.03	0.22	0.05	25	10%
50	1.00	0.11	0.05	0.38	0.04	30	25%
55	0.00	0.18	0.08	0.68	0.01	35	25%
60	0.00	0.29	0.11	1.16	0.00	40+	100%

\* The annual rate of service retirement is 100% at age 61.

**DEATH AFTER RETIREMENT:** The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the RP-2014 Healthy Annuitant Blue Collar Mortality Table projected with Scale BB to 2022 with male rates set forward one year and adjusted by 106% for males at all ages and as follows for females: 90% for ages less the 76, 95% for age 76, 105% for age 78, and 1.10% for ages 79 and greater. The RP-2014 Disabled Retiree Mortality Table set forward 4 years for males and 3 years for females was used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement. Mortality improvement is anticipated under this assumption as recent mortality experience shows actual deaths 11.2% greater than expected under the selected table for non-disability mortality and 10.5% greater than expected under the selected table for disability mortality.



### ***Schedule D – Actuarial Cost Method***

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The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, and an assumed future investment rate of return. The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an actuarial accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for OPEB benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.