



## EMPLOYEES RETIREMENT SYSTEM OF TEXAS

**ACTUARIAL VALUATION OF OTHER POST-EMPLOYMENT  
BENEFITS PROVIDED UNDER THE TEXAS EMPLOYEES  
GROUP BENEFITS PROGRAM  
GOVERNMENTAL ACCOUNTING STANDARDS BOARD  
STATEMENT NO. 75 FOR 2018 FISCAL YEARS ENDING  
ON OR BEFORE AUGUST 31, 2018**

**(REVISED)**



**Rudd and Wisdom Inc.**  
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# Rudd and Wisdom, Inc.

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July 26, 2018

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Attached is our Actuarial Valuation of the Other Post-Employment Benefits (OPEB) provided under the Texas Employees Group Benefits Program (GBP) administered by the Employees Retirement System of Texas (ERS) for Fiscal Years ending on or before August 31, 2018 (GBP OPEB). The purpose of this valuation is to provide accounting information that is required by the Governmental Accounting Standards Board Statement No. 75 (GASB No. 75) which sets forth the financial reporting standards for state and local government employers that provide post-employment benefits other than pension benefits. Such benefits are referred to collectively as OPEB. The results of this valuation are appropriate only for purposes of GASB No. 75. [Effective with fiscal years beginning on or after June 16, 2017 (i.e., fiscal years ending on or after June 15, 2018 and referred to as "FY18" throughout this report), GASB No. 75 replaces and supersedes GASB No. 45 in its entirety.] *This report reflects revisions to the previous report dated June 20, 2018 and replaces the previous report in its entirety.*

The GBP provides OPEB for retired employees of the State of Texas and certain institutions of higher education and other agencies as specified in Chapter 1551 of the Texas Insurance Code. For purposes of this report, the term Employer is used when referring to the cost-sharing employers collectively.

GASB No. 74 and GASB No. 75 operate together to form the basis of financial reporting for OPEB by the plan (GASB No. 74) and by the employer/plan sponsor (GASB No. 75). Depending upon plan structure, GASB presents several alternatives for coordinated plan and employer/sponsor reporting.

The Office of the Comptroller of Public Accounts (CPA) has determined that the GBP is a cost-sharing multiple employer plan with a special funding situation that is administered in accordance with paragraph 4 of GASB No. 75 which applies to trusts, or equivalent arrangements, that meet the following criteria:

- a) Contributions from employers and **nonemployer contributing entities** to the OPEB plan and earnings on those contributions are irrevocable,
- b) OPEB plan assets are dedicated to providing OPEB benefits to plan members in accordance with the benefit terms, and

- c) OPEB plan assets are legally protected from creditors of employers, nonemployer contributing entities, and the OPEB plan administrator. If the plan is a defined benefit OPEB plan, plan assets are also legally protected from creditors of the plan members.

Therefore, based on the determination of the CPA, the employers report under paragraphs 21-26, 59-98, 109-115, 138 and 140-142 of GASB No. 75 and references to GASB No. 75 should be interpreted accordingly.

Please refer to the glossary in Section VI of this report for the definitions of certain GASB No. 75 terms which are indicated below in boldface type the first time they appear.

#### ***Measurement Date***

As permitted under Paragraph No. 59 of GASB No. 75, a measurement date that is twelve months in advance of the current fiscal year end has been selected. Thus, for purposes of GASB No. 75 reporting for FY18, the measurement date is August 31, 2017, and the August 31, 2017 liability shown in the GBP OPEB GASB No. 74 actuarial valuation report will be used for FY18 reporting. Accordingly, this report incorporates by reference the actuarial assumptions and methods, the plan provisions and the valuation results shown in the GBP OPEB GASB No. 74 report dated November 17, 2017.

However, for purposes of this report, the liability determined as of the beginning of the measurement year (i.e., September 1, 2016) was determined on the same basis as the August 31, 2016 GASB No. 43 liability with the exception of the use of a discount rate of 2.84%. Accordingly, this report incorporates by reference the actuarial assumptions (except the discount rate) and methods, the plan demographics and the plan provisions shown in the GBP OPEB GASB No. 43 report dated November 4, 2016.

#### ***Proportionate Share***

Per Paragraph No. 59 of GASB No. 75, a liability for an employer's proportionate share of the collective Net OPEB Liability as of the measurement date shall be recognized at the end of the employer's fiscal year. ERS has determined each employer's proportionate share as the ratio of the employer's contributions to the GBP for retired members to the total contributions made by all employers to the GBP for all retired members. These proportions are determined as of the measurement date based on contributions made during the year ending on the measurement date.

For each employer, this same proportionate share is used to allocate the OPEB Expense and Deferred Outflows/Inflows of Resources in accordance with Paragraph No. 63 of GASB No. 75.

See Section V for a list of the employers' proportionate shares.

#### ***Variability in Future Actuarial Measurement***

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;

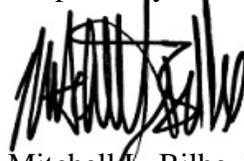
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions, applicable law or applicable accounting standards.

Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Aside from the required sensitivities of the Net OPEB Liability to changes in the discount rate and healthcare cost trend rates presented on page II-2, we have not been asked to perform and have not performed any stochastic or deterministic sensitivity analyses of the potential ranges of such future measurements. If you have an interest in the results of any such analysis, please let us know.

Please let us know if you have any questions or need additional information concerning this report.

Respectfully submitted,



Mitchell L. Bilbe, F.S.A.



Christopher S. Johnson, F.S.A.



Philip S. Dial, F.S.A.

MLB/CSJ/PSD:ph

Enclosures

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**GASB STATEMENT NO. 75  
ACTUARIAL VALUATION**

**AS OF AUGUST 31, 2017  
FOR 2018 FISCAL YEARS ENDING ON OR BEFORE  
AUGUST 31, 2018**

**FOR THE  
OTHER POST-EMPLOYMENT BENEFITS UNDER THE  
TEXAS EMPLOYEES  
GROUP BENEFITS PROGRAM**

**(REVISED)**



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## ***Section I - Certification of GASB No. 75 Actuarial Valuation***

At the request of the Employees Retirement System of Texas (ERS), we have performed an actuarial valuation of the Other Post-Employment Benefits (OPEB) provided under the Texas Employees Group Benefits Program (GBP) for purposes of employer reporting requirements for 2018 fiscal years ending on or before August 31, 2018. The purpose of this report is to present the results of our valuation and provide the information necessary to determine financial statement entries consistent with the Governmental Accounting Standards Board Statement No. 75 Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB No. 75).

Actuarial computations under GASB No. 75 are for purposes of fulfilling governmental employer financial accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of GASB No. 75 and the GBP. The information presented in this report is solely for purposes of compliance with GASB No. 75. This report does not provide any advice with respect to the manner in which the benefits are funded (i.e., pay-as-you go funding as opposed to prefunding the benefits).

A measurement date that is no more than 12 months earlier than the end of 2018 fiscal years has been selected as permitted under Paragraph No. 59 of GASB No. 75. Thus, a measurement date of August 31, 2017 will be used to report information for 2018 fiscal years ending on or before August 31, 2018. Accordingly, we have based this FY18 GASB No. 75 valuation (except for the determination of the Total OPEB Liability as of the beginning of the measurement year) on the results of our FY17 GASB No. 74 valuation report dated November 17, 2017. The FY17 GASB No. 74 report used a valuation date of August 31, 2017. We have based the Total OPEB Liability as of the beginning of the measurement year (i.e., September 1, 2016) on the member census, plan benefit provisions and actuarial assumptions and methods (except a discount rate of 2.84% was used in place of the discount rate shown in that report) used in our FY16 GASB No. 43 valuation report dated November 4, 2016. See those reports for a complete summary of actuarial assumptions and methods, plan benefit provisions and our certification of those results.

To the best of our knowledge, the actuarial information supplied in this report is complete and accurate. In our opinion, each of the assumptions used is reasonably related to the experience of the plan and to reasonable expectations and represents our best estimate of anticipated experience under the plan solely with respect to that individual assumption. All of our work conforms to generally accepted actuarial principles and practices and to the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Rudd and Wisdom, Inc. prepared and presented in Sections II and III of this report the information that is required to be included in the notes to the Financial Statements and the Required Supplementary Information. ERS prepared the proportionate share allocation percentages shown in Section V of this report.

The undersigned individuals are members of the American Academy of Actuaries who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Mitchell L. Bilbe, F.S.A.  
Member of American Academy of Actuaries

Philip S. Dial, F.S.A.  
Member of American Academy of Actuaries

Christopher S. Johnson, F.S.A.  
Member of American Academy of Actuaries



## *Section II - Notes to the Financial Statements*

*Pursuant to Paragraphs No. 91 through 98 of GASB No. 75, the following information should be included in the Notes to the Financial Statements.*

### **A. OPEB Plan Description**

See Section V.A. of the GBP OPEB GASB No. 74 actuarial valuation report dated November 17, 2017 for details of the OPEB plan description.

### **B. Net OPEB Liability**

The Employer's Net OPEB Liability reported for 2018 fiscal years ending on or before August 31, 2018 was measured as of August 31, 2017, and the Total OPEB Liability used to calculate the Net OPEB Liability was determined by an actuarial valuation as of that same date.

The components of the Net OPEB Liability of the Employer at August 31, 2017 were as follows:

<b>Total OPEB Liability</b>	\$ 34,782,794,493
<b>Plan Fiduciary Net Position</b>	709,782,760
<b>Net OPEB Liability</b>	<u>\$ 34,073,011,733<sup>1</sup></u>
<b>Plan Fiduciary Net Position as a percentage of the Total OPEB Liability</b>	2.04%

<sup>1</sup> Comprised of a current portion of \$172,889,929 and a long-term portion of \$33,900,121,804.

#### 1. Actuarial Assumptions

See Section V.F. of the GBP OPEB GASB No. 74 actuarial valuation report dated November 17, 2017 for details about the actuarial assumptions used in the determination of the Total OPEB Liability as of August 31, 2017.

See Section VII of the GBP OPEB GASB No. 43 actuarial valuation report dated November 4, 2016 for details about the actuarial assumptions used in the determination of the Total OPEB Liability as of September 1, 2016 (with the exception of the discount rate disclosed below).

#### 2. Discount Rate

- a. **Discount Rate:** The discount rate used to measure the Total OPEB Liability as of the end of the measurement year was 3.51%. The discount rate used to determine the Total OPEB Liability as of the beginning of the measurement year was 2.84%.
- b. **Projected Cash Flows:** Projected cash flows into the plan are equal to projected benefit payments out of the plan.



- c. Long-Term Expected Rate of Return: N/A; the plan operates on a PAYGO basis and is not intended to accumulate assets.
- d. Municipal Bond Rate: 3.51% as of the end of the measurement year and 2.84% as of the beginning of the measurement year; the source of the municipal bond rate is the Bond Buyer Index of general obligation bonds with 20 years to maturity and mixed credit quality. In describing their index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.
- e. Years of Projected Benefit Payments to which Long-Term Expected Rate of Return Applies: 0 years
- f. Assumed Asset Allocation, Long-Term Expected Real Rate of Return for Each Asset Class and Arithmetic vs. Geometric return: N/A; the plan operates on a PAYGO basis and is not intended to accumulate assets.

3. Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the Net OPEB Liability reported as of the end of 2018 fiscal years ending on or before August 31, 2018 and measured as of August 31, 2017, as well as what the Net OPEB Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.51%) or 1-percentage-point higher (4.51%) than the current discount rate:

	1% Decrease (2.51%)	Current Discount Rate (3.51%)	1% Increase (4.51%)
Net OPEB Liability/(Asset) (\$ thousands)	\$ 40,673,219	\$ 34,073,012	\$ 28,960,562

4. Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the Net OPEB Liability reported as of the end of 2018 fiscal years ending on or before August 31, 2018 and measured as of August 31, 2017, as well as what the Net OPEB Liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower (7.50% decreasing to 3.50%) or 1-percentage-point higher (9.50% decreasing to 5.50%) than the current healthcare cost trend rates:

	1% Decrease (7.50% decreasing to 3.50%)	Current Healthcare Cost Trend Rates (8.50% decreasing to 4.50%)	1% Increase (9.50% decreasing to 5.50%)
Net OPEB Liability/(Asset) (\$ thousands)	\$ 28,644,156	\$ 34,073,012	\$ 41,117,262



### C. Changes in the Net OPEB Liability

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) – (b)
<b>Balance at August 31, 2016 Measurement Date<sup>1</sup></b>	\$ 41,212,262,677	\$ 502,258,659	\$ 40,710,004,018
<b>Changes for the year:</b>			
Service cost	\$ 2,303,978,626		\$ 2,303,978,626
Interest	1,225,588,297		1,225,588,297
Changes of benefit terms	0		0
Differences between expected and actual experience	(501,666,343)		(501,666,343)
Contributions – employer		\$ 890,735,173	(890,735,173)
Contributions – non-employer contributing entities		46,092,316	(46,092,316)
Contributions – employee		195,806,162	(195,806,162)
Other (Federal Revenues and Other Additions) <sup>2</sup>		71,818,125	(71,818,125)
Net investment income		4,516,817	(4,516,817)
Benefit payments, including refunds of employee contributions	(728,548,091)	(728,548,091)	0
Benefit payments financed by employee contributions and Federal Revenues		(267,267,712)	267,267,712
Administrative expenses		(5,628,689)	5,628,689
Assumption changes <sup>3</sup>	(8,728,820,673)	0	(8,728,820,673)
Other changes	0	0	0
<b>Net changes</b>	<b>\$ (6,429,468,184)</b>	<b>\$ 207,524,101</b>	<b>\$ (6,636,992,285)</b>
<b>Balance at August 31, 2017 Measurement Date<sup>4</sup></b>	<b>\$ 34,782,794,493</b>	<b>\$ 709,782,760</b>	<b>\$ 34,073,011,733</b>

<sup>1</sup> Information at the beginning of FY18 was taken as of the remeasurement date of August 31, 2016 as permitted by Paragraph No. 59 of GASB No. 75.

<sup>2</sup> Comprised of \$71,461,550 in Federal Revenues and \$356,575 in Other Additions.

<sup>3</sup> Comprised of \$4,747,478,969 due to the change in discount rate and \$3,981,341,704 due to other assumption changes.

<sup>4</sup> Information for 2018 fiscal years ending on or before August 31, 2018 was taken as of the measurement date of August 31, 2017 as permitted by Paragraph No. 59 of GASB No. 75.

#### OPEB Plan Fiduciary Net Position

Detailed information about the OPEB plan's fiduciary net position is shown in Section IV of the GBP OPEB GASB No. 74 actuarial valuation report dated November 17, 2017.



**D. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB**

For the 2018 fiscal years ended on or before August 31, 2018, the Employer recognized OPEB expense of \$1,823,453,637.

**1. Components of OPEB Expense for the 2018 Fiscal Years Ended on or before August 31, 2018**

Service Cost	\$ 2,303,978,626
Interest on the total OPEB liability	1,225,588,297
Amortization of differences between expected and actual experience <sup>1</sup>	(92,218,078)
Amortization of changes of assumptions <sup>1</sup>	(1,604,562,624)
Employee contributions	(195,806,162)
Other (Federal Revenues and Other Additions)	(71,818,125)
Benefit payments financed by Employee Contributions and Federal Revenues	267,267,712
Projected earnings on OPEB plan investments	(17,126,668)
Amortization of differences between projected and actual earnings on OPEB plan investments <sup>2</sup>	2,521,970
OPEB plan administrative expense	<u>5,628,689</u>
Total OPEB expense	\$ 1,823,453,637

At the end of FY18<sup>3</sup>, the Employer reported deferred outflows of resources and deferred inflows of resources related to OPEB from the sources listed in the table below.

- <sup>1</sup> Per Paragraph No. 86.a. of GASB No. 75, amortized over a straight-line closed period equal to the average remaining service period for all employees (active and inactive) who are provided with benefits through the OPEB plan.  
<sup>2</sup> Per Paragraph No. 86.b. of GASB No. 75, amortized over a straight-line closed 5-year period.  
<sup>3</sup> Amounts recognized in the fiscal year represent changes between the current and prior measurement dates.

**2. Balances of Deferred Outflows of Resources and Deferred Inflows of Resources as of the end of FY18**

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 0	\$ 409,448,265
Changes of assumptions	0	7,124,258,049
Net difference between projected and actual earnings on OPEB plan investments	<u>10,087,881</u>	<u>0</u>
Total excluding post-measurement date contributions	\$ 10,087,881 <sup>1</sup>	\$7,533,706,314

- <sup>1</sup> Contributions made after the measurement date of August 31, 2017 and before the cost-sharing employer's Fiscal Year End need to be recognized as deferred outflows in accordance with Paragraph No. 68 of GASB No. 75. At the end of FY18, each reporting entity shall determine their contributions during this period and add this amount to their allocated portion of these deferred outflows.



**3. Change in Deferred Outflows of Resources and Deferred Inflows of Resources**

	<b>Change in Deferred Outflows of Resources</b>	<b>Change in Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ 0	\$ 409,448,265
Changes of assumptions	0	7,124,258,049
Net difference between projected and actual earnings on OPEB plan investments	<u>10,087,881</u>	<u>0</u>
Total	\$ 10,087,881	\$7,533,706,314

**4. Change in Balance Sheet Items**

Change in Net OPEB Liability	\$(6,636,992,285)
Change in deferred outflows	(10,087,881)
Change in deferred inflows	7,533,706,314
Employer contributions	<u>936,827,489</u>
Total OPEB expense	\$ 1,823,453,637

*Contributions made after the measurement date of August 31, 2017 and before the end of FY18 are to be recognized as deferred outflows. Those amounts are not reflected in Sections D.3. or D.4. above, as Sections D.3. and D.4. illustrate changes between the two measurement dates, rather than contributions made subsequent to the measurement date.*

**5. Amounts reported as Deferred Outflows/(Inflows) of resources will be recognized in OPEB expense as follows:**

<b>Fiscal Year Ending August 31</b>	<b>Amount</b>
2019	\$(1,694,258,732)
2020	(1,694,258,732)
2021	(1,694,258,732)
2022	(1,694,258,731)
2023	(746,583,506)
Thereafter	0



### **E. Payable to the OPEB Plan**

At the end of FY18, the Employer reported a payable of \$TBD<sup>1</sup> for the outstanding amount of contributions to the OPEB plan required for the 2018 fiscal years ended on or before August 31, 2018.

<sup>1</sup> Each cost-sharing employer shall determine this amount, if any, at the end of FY18.

### **F. Change in Proportionate Share**

In accordance with Paragraph No. 96f of GASB No. 75, the Employer shall provide a brief description of the nature of changes between the measurement date of the collective net OPEB liability and the Employer's reporting date that are expected to have a significant effect on the Employer's proportionate share of the collective net OPEB liability, and the amount of the expected resultant change in the Employer's proportionate share of the collective net OPEB liability, if known.



### ***Section III – Required Supplementary Information***

#### **A. Information to be Presented for Each Cost-Sharing Employer**

*Each employer shall include information in its Required Supplementary Information that comports with the requirements of Paragraph No. 97 of GASB No. 75.*

See Section V of this report for each employer's proportionate share.

#### **B. Notes to the Required Schedules**

*Per Paragraph No. 98 of GASB No. 75, the employer should disclose factors that significantly affect trends in the amounts reported. For example, changes in benefit provisions, changes in the size or composition of the population covered by the benefit terms or changes in actuarial methods and assumptions should be identified.*

See Section VI.D. of the GBP OPEB GASB No. 74 actuarial valuation report dated November 17, 2017 for details.



**Section IV – Additional Information**

**A. Schedule of Changes in the Employer’s Net OPEB Liability and Related Ratios**

Last 10 Fiscal Years<sup>1,2</sup>

	<b>FY18</b>
<b>1. Total OPEB Liability</b>	
a. Service cost	\$ 2,303,978,626
b. Interest	1,225,588,297
c. Changes of benefit terms	0
d. Differences between expected and actual experience	(501,666,343)
e. Changes of assumptions	(8,728,820,673)
f. Benefit payments, including refunds of employee contributions	(728,548,091) <sup>3</sup>
<b>g. Net Change in Total OPEB Liability</b>	<b>\$ (6,429,468,184)</b>
<b>h. Total OPEB Liability – Beginning</b>	<b>41,212,262,677</b>
<b>i. Total OPEB Liability – Ending</b>	<b>\$ 34,782,794,493</b>
<b>2. Plan Fiduciary Net Position</b>	
a. Contributions – employer	\$ 890,735,173
b. Contributions – non-employer contributing entities	46,092,316 <sup>4</sup>
c. Contributions – employee	195,806,162
d. Other (Federal Revenues and Other Additions)	71,818,125
e. Net investment income	4,516,817
f. Benefit payments, including refunds of employee contributions	(728,548,091)
g. Benefit payments financed by employee contributions and Federal Revenues	(267,267,712)
h. Administrative expense	(5,628,689)
i. Other	0
<b>j. Net Change in Plan Fiduciary Net Position</b>	<b>\$ 207,524,101</b>
<b>k. Plan Fiduciary Net Position – Beginning</b>	<b>502,258,659</b>
<b>l. Plan Fiduciary Net Position – Ending</b>	<b>\$ 709,782,760</b>
<b>3. Employer’s Net OPEB Liability – Ending [Item 1(i) – 2(l)]</b>	<b>\$ 34,073,011,733<sup>5</sup></b>
<b>4. Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability</b>	<b>2.04%</b>
<b>5. Covered-Employee Payroll</b>	<b>\$ 11,745,310,057</b>
<b>6. Employer’s Net OPEB Liability as a Percentage of Covered-Employee Payroll</b>	<b>290.10%</b>

Notes to Schedule:

- <sup>1</sup> Until a full 10-year trend is compiled, governments should present information for those years for which information is available.
- <sup>2</sup> Information is presented using an August 31, 2017 measurement date.
- <sup>3</sup> Benefit payments are net of member contributions and Federal Revenues.
- <sup>4</sup> Includes Federal Retiree Drug Subsidy amount of \$1,658,573.
- <sup>5</sup> Comprised of a current portion of \$172,889,929 and a long-term portion of \$33,900,121,804.



**B. Detailed Calculations of Certain Components of OPEB Expense**

	<b>2018 Fiscal Years Ending on or before August 31, 2018</b>
1. Interest on Total OPEB Liability	
a. Total OPEB Liability on Measurement Date	\$41,212,262,677
b. Service Cost	\$ 2,303,978,626
c. Benefit Payments	\$ 728,548,091
d. Discount Rate	2.84%
e. Interest on Total OPEB Liability $[(a. + b.) \times d.] - \{c. \times [(1+d.)^{0.5} - 1]\}$	\$ 1,225,588,297
2. Projected Earnings on OPEB Plan Investments	
a. Plan Fiduciary Net Position on Measurement Date	\$ 502,258,659
b. Contributions – employer	\$ 936,827,489
c. Contributions – employee	\$ 195,806,162
d. Other (Federal Revenues and Other Additions)	\$ 71,818,125
e. Benefit Payments	\$ 728,548,091
f. Administrative Expense	\$ 5,628,689
g. Benefit payments financed by employee contributions and Federal Revenues	\$ 267,267,712
h. Expected Rate of Return on Plan Assets	2.84%
i. Projected Earnings on OPEB Plan Investments $(a. \times h.) + \{(b. + c. + d. - e. - f. - g.) \times [(1 + h.)^{0.5} - 1]\}$	\$ 17,126,668



## Section V - Proportionate Share for Each Employer

Each employer shall apply their allocation percentage to the Net OPEB Liability of \$34,073,011,733, to the sensitivities of the Net OPEB Liability to changes in the discount rate and the healthcare cost trend rates as shown on page II-2 of this report, to the OPEB Expense of \$1,823,453,637, to the Deferred Outflows of Resources of \$10,087,881 and to the Deferred Inflows of Resources of \$7,533,706,314 to determine their proportionate share of each of these accounting entries. (See Appendices for additional details about the Deferred Outflows/Inflows of Resources.) The allocation percentages presented in the table below were determined by ERS and are as of August 31, 2017 to be used for reporting for 2018 fiscal years ending on or before August 31, 2018.

### Summary of Employer Allocations by Reporting Entity

	Fiscal Year 2017 Actual Employer Contributions	Employer Allocation Percentage
STATE OF TEXAS		
State Matching funds:		
<sup>1</sup> Non-Employer Contributing Entity (NECE)	45,035,436.99	4.80511114%
Employer Contributions - State Universities	79,710,474.95	8.50480682%
<sup>2</sup> Other Entities - State	23,027,034.38	2.45689765%
Employer Contributions - State Agencies	716,270,719.86	76.42338229%
Total - STATE OF TEXAS	864,043,666.18	92.19019791%
ALL OTHER EMPLOYERS		
Other Entities - Universities	19,342,644.33	2.06378714%
Other Entities - Junior and Community Colleges	53,030,484.58	5.65815255%
Other Entities	823,481.86	0.08786241%
Total - ALL OTHER EMPLOYERS	73,196,610.77	7.80980209%
GRAND TOTAL	937,240,276.95	100.00000000%



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Agency No.	Agency Name	Fiscal Year 2017 Employer Contributions	Employer Allocation Percentage
0902	<sup>1</sup> State of Texas Non Employer Contributing Entity (NECE)	45,035,436.99	4.80511114%
0902	State of Texas Employer for Universities	79,710,474.95	8.50480682%
0902	<sup>2</sup> Other Entities - State	23,027,034.38	2.45689765%
<b>Employer Contributions - State Agencies</b>			
0101	Senate	2,563,791.48	0.27354687%
0102	House of Representatives	4,509,343.18	0.48112990%
0103	Texas Legislative Council	1,461,173.98	0.15590175%
0104	Legislative Budget Board	536,986.64	0.05729445%
0105	Legislative Reference Library	81,175.84	0.00866116%
0116	Sunset Advisory Commission	70,590.72	0.00753176%
0201	Supreme Court	252,528.48	0.02694384%
0202	State Bar of Texas	923,684.34	0.09855363%
0203	Board of Law Examiners	104,285.16	0.01112683%
0211	Court of Criminal Appeals	264,908.24	0.02826471%
0212	Office of Court Administration	521,041.82	0.05559320%
0213	State Prosecuting Attorney	41,642.40	0.00444309%
0221	Court of Appeals - First Court of Appeals District	165,276.78	0.01763441%
0222	Court of Appeals - Second Court of Appeals District	110,149.92	0.01175258%
0223	Court of Appeals - Third Court of Appeals District	177,186.12	0.01890509%
0224	Court of Appeals - Fourth Court of Appeals District	124,998.00	0.01333682%
0225	Court of Appeals - Fifth Court of Appeals District	252,355.44	0.02692537%
0226	Court of Appeals - Sixth Court of Appeals District	86,486.64	0.00922780%
0227	Court of Appeals - Seventh Court of Appeals District	103,842.38	0.01107959%
0228	Court of Appeals - Eighth Court of Appeals District	91,052.64	0.00971497%
0229	Court of Appeals - Ninth Court of Appeals District	85,727.76	0.00914683%
0230	Court of Appeals - Tenth Court of Appeals District	61,422.24	0.00655352%
0231	Court of Appeals - Eleventh Court of Appeals District	68,508.00	0.00730955%
0232	Court of Appeals - Twelfth Court of Appeals District	98,820.48	0.01054377%
0233	Court of Appeals - Thirteenth Court of Appeals District	105,867.84	0.01129570%
0234	Court of Appeals - Fourteenth Court of Appeals District	179,342.90	0.01913521%
0241	Comptroller - Judiciary Section	5,618,372.43	0.59945913%
0242	State Commission on Judicial Conduct	74,308.60	0.00792845%
0243	State Law Library	26,466.96	0.00282393%
0300	Governor - Fiscal	382,313.06	0.04079136%
0301	Governor - Executive	875,480.22	0.09341044%
0302	Attorney General	12,780,522.56	1.36363352%
0303	Texas Facilities Commission	2,786,383.46	0.29729660%
0304	Comptroller of Public Accounts	16,620,523.86	1.77334716%
0305	General Land Office	2,932,555.92	0.31289265%
0306	Texas State Library and Archives Commission	775,675.88	0.08276169%
0307	Secretary of State	1,080,988.04	0.11533734%
0308	State Auditor	771,511.64	0.08231738%
0312	State Securities Board	400,153.76	0.04269490%
0313	Department of Information Resources	1,056,944.76	0.11277202%
0320	Texas Workforce Commission	27,036,985.05	2.88474426%
0323	Teacher Retirement System of Texas	2,251,440.52	0.24022021%
0327	Employees Retirement System of Texas	1,548,558.30	0.16522533%
0329	Texas Real Estate Commission – Semi-Independent	501,084.70	0.05346385%
0332	Texas Department of Housing and Community Affairs	1,198,204.92	0.12784394%
0338	State Pension Review Board	75,156.72	0.00801894%
0347	Texas Public Finance Authority	59,175.36	0.00631379%



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Agency No.	Agency Name	Fiscal Year 2017 Employer Contributions	Employer Allocation Percentage
0352	Bond Review Board	51,021.34	0.00544378%
0356	Texas Ethics Commission	120,146.64	0.01281919%
0359	Office Of Public Insurance Counsel	22,222.80	0.00237109%
0360	State Office of Administrative Hearings	423,820.66	0.04522007%
0362	Texas Lottery Commission	1,182,331.88	0.12615035%
0401	Texas Military Department	1,633,791.76	0.17431941%
0403	Texas Veterans Commission	1,529,192.68	0.16315909%
0405	Department of Public Safety	42,607,158.28	4.54602297%
0407	Texas Commission on Law Enforcement	313,868.64	0.03348860%
0409	Commission on Jail Standards	83,027.74	0.00885875%
0411	Texas Commission on Fire Protection	265,018.44	0.02827647%
0448	Office of Injured Employee Counsel – Administered by 454	449,947.00	0.04800765%
0450	Department of Savings and Mortgage Lending – Semi-Independent	160,858.10	0.01716295%
0451	Texas Department of Banking – Semi-Independent	621,263.80	0.06628650%
0452	Texas Department of Licensing and Regulation	1,149,118.10	0.12260656%
0454	Texas Department of Insurance	9,495,541.32	1.01313842%
0455	Railroad Commission of Texas	4,833,105.96	0.51567416%
0456	Texas State Board of Plumbing Examiners	210,531.14	0.02246288%
0457	Texas State Board of Public Accountancy – Semi-Independent	164,061.04	0.01750469%
0458	Texas Alcoholic Beverage Commission	3,916,931.94	0.41792185%
0459	Texas Board of Architectural Examiners – Semi-Independent	97,379.52	0.01039003%
0460	Texas Board of Professional Engineers – Semi-Independent	151,404.72	0.01615431%
0464	Texas Board of Professional Land Surveying	37,722.37	0.00402483%
0466	Office of Consumer Credit Commissioner – Semi-Independent	232,102.14	0.02476442%
0469	Credit Union Department – Semi-Independent	104,035.62	0.01110021%
0473	Public Utility Commission of Texas	869,620.54	0.09278523%
0475	Office of Public Utility Counsel	82,709.44	0.00882479%
0476	Texas Racing Commission	383,498.80	0.04091787%
0477	Commission on State Emergency Communications	86,026.74	0.00917873%
0479	State Office of Risk Management	256,968.58	0.02741758%
0503	Texas Medical Board	606,530.12	0.06471447%
0504	State Board of Dental Examiners	153,476.88	0.01637540%
0507	Texas Board of Nursing	244,716.96	0.02611038%
0508	Texas Board of Chiropractic Examiners	22,840.10	0.00243695%
0512	State Bd of Podiatric Medical Examiners	11,651.76	0.00124320%
0513	Texas Funeral Service Commission	35,649.04	0.00380362%
0514	Texas Optometry Board	33,526.08	0.00357711%
0515	Texas State Board of Pharmacy	257,814.52	0.02750784%
0520	Texas State Board of Examiners of Psychologists	66,953.68	0.00714371%
0529	Health and Human Services Commission	75,186,692.06	8.02213626%
0530	Department of Family and Protective Services	23,389,690.52	2.49559170%
0533	Executive Council of Physical and Occupational Therapy Examiners	63,247.90	0.00674831%
0537	Department of State Health Services	64,314,674.68	6.86213304%
0539	Department of Aging and Disability Services	70,879,959.71	7.56262417%
0551	Department of Agriculture	4,050,832.60	0.43220855%
0554	Texas Animal Health Commission	1,531,714.26	0.16342813%
0578	State Board of Veterinary Medical Examiners	58,412.68	0.00623241%
0580	Texas Water Development Board	2,019,521.00	0.21547527%
0582	Texas Commission on Environmental Quality	12,640,414.18	1.34868448%
0592	Soil and Water Conservation Board	199,142.22	0.02124772%
0601	Texas Department of Transportation	104,513,652.70	11.15121226%



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Agency No.	Agency Name	Fiscal Year 2017 Employer Contributions	Employer Allocation Percentage
0608	Texas Department of Motor Vehicles	1,270,287.50	0.13553488%
0644	Texas Juvenile Justice Department	12,800,109.68	1.36572339%
0696	Texas Department of Criminal Justice	149,598,350.29	15.96157933%
0701	Texas Education Agency	6,729,529.52	0.71801540%
0771	Texas School for the Blind and Visually Impaired	1,315,011.36	0.14030675%
0772	Texas School for the Deaf	1,812,675.51	0.19340564%
0781	Texas Higher Education Coordinating Board	1,319,063.96	0.14073915%
0802	Parks and Wildlife Department	16,664,591.62	1.77804903%
0808	Texas Historical Commission	479,709.08	0.05118315%
0809	State Preservation Board	372,855.02	0.03978222%
0813	Texas Commission on the Arts	45,526.32	0.00485749%
0907	Comptroller - State Energy Conservation Office	63,504.96	0.00677574%
0930	Texas Treasury Safekeeping Trust Company	88,967.52	0.00949250%
<b>Total of Employer Contributions - State Agencies</b>		<b>716,270,719.86</b>	
<b>Other Entities - Universities</b>			
0717	Texas Southern University	2,481.96	0.00026482%
0719	Texas State Technical College System	94,045.48	0.01003430%
0730	University of Houston	3,171,337.48	0.33836974%
0731	Texas Woman's University	558,735.88	0.05961501%
0733	Texas Tech University	4,336,844.24	0.46272491%
0734	Lamar University	21,191.92	0.00226110%
0735	Midwestern State University	321,195.80	0.03427038%
0737	Angelo State University	293,013.74	0.03126346%
0739	Texas Tech University Health Sciences Center	2,331,653.77	0.24877866%
0752	University of North Texas	1,793,180.04	0.19132554%
0753	Sam Houston State University	860,019.98	0.09176089%
0754	Texas State University	2,467,654.28	0.26328940%
0755	Stephen F. Austin State University	1,341,132.56	0.14309378%
0756	Sul Ross State University	120,409.16	0.01284720%
0758	Texas State University System	0.00	0.00000000%
0759	University of Houston - Clear Lake	67,924.08	0.00724724%
0763	University of North Texas Health Science Center at Fort Worth	436,131.20	0.04653355%
0765	University of Houston - Victoria	0.00	0.00000000%
0768	Texas Tech University System	135,111.62	0.01441590%
0769	University of North Texas System	147,058.98	0.01569064%
0773	University of North Texas at Dallas	0.00	0.00000000%
0774	Texas Tech University Health Sciences Center - El Paso	795,969.82	0.08492698%
0783	University of Houston System	0.00	0.00000000%
0784	University of Houston - Downtown	40,144.74	0.00428329%
0787	Lamar State College - Orange	7,407.60	0.00079036%
0788	Lamar State College - Port Arthur	0.00	0.00000000%
0789	Lamar Institute of Technology	0.00	0.00000000%
<b>Total of Other Entities - Universities</b>		<b>19,342,644.33</b>	
<b>Other Entities - Junior and Community Colleges</b>			
0767	<sup>3</sup> Southwest Collegiate Institute for the Deaf	71,976.88	0.00767966%
0948	South Texas Community College	364,049.26	0.03884268%
0949	Collin County Community College District	861,492.19	0.09191797%
0951	Alvin Community College	772,184.43	0.08238916%
0952	Amarillo College	1,967,285.83	0.20990197%



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Agency No.	Agency Name	Fiscal Year 2017 Employer Contributions	Employer Allocation Percentage
0953	Coastal Bend College	610,289.88	0.06511563%
0954	Blinn College	1,193,885.51	0.12738308%
0955	Central Texas College	2,142,878.25	0.22863702%
0956	Cisco Junior College	340,867.63	0.03636929%
0957	Clarendon College	156,458.80	0.01669356%
0958	North Central Texas College	463,770.85	0.04948260%
0959	Dallas County Community College	5,620,873.63	0.59972600%
0960	Del Mar College	2,033,804.34	0.21699925%
0961	Frank Phillips College	159,559.75	0.01702442%
0962	Galveston College	274,267.16	0.02926327%
0963	Grayson County College	706,977.69	0.07543185%
0964	Trinity Valley Community College	745,956.07	0.07959070%
0965	Hill College	277,211.23	0.02957739%
0966	<sup>3</sup> Howard College	478,448.02	0.05104860%
0967	Kilgore College	914,440.19	0.09756732%
0968	Laredo Junior College	941,609.78	0.10046621%
0969	Lee College	866,362.67	0.09243763%
0970	McLennan Community College	1,028,470.38	0.10973391%
0971	College Of The Mainland	1,028,437.23	0.10973037%
0972	Navarro College	464,791.99	0.04959155%
0973	Odessa College	801,283.32	0.08549391%
0974	Panola College	302,118.23	0.03223488%
0975	Paris Junior College	573,797.03	0.06122198%
0976	Ranger Junior College	161,616.32	0.01724385%
0977	Alamo Community College	4,355,921.49	0.46476038%
0978	San Jacinto College	2,506,560.21	0.26744051%
0979	South Plains College	1,202,697.06	0.12832324%
0980	Southwest Texas Counties Junior College	531,039.74	0.05665994%
0981	Tarrant County College District	3,696,379.96	0.39438979%
0982	Temple College	580,188.43	0.06190392%
0983	Texarkana College	710,453.86	0.07580275%
0984	Texas Southmost College	6,173.00	0.00065864%
0985	Tyler Junior College	986,328.60	0.10523754%
0986	Victoria College	621,299.54	0.06629032%
0987	Weatherford College	403,508.34	0.04305282%
0988	Wharton County Junior College	648,823.50	0.06922702%
0989	Angelina College	578,240.15	0.06169604%
0990	Brazosport College	372,937.71	0.03979105%
0991	Vernon Regional Junior College	329,720.00	0.03517988%
0992	Western Texas College	281,279.20	0.03001143%
0993	El Paso Community College	1,623,261.50	0.17319588%
0994	Houston Community College	2,331,365.05	0.24874785%
0995	Midland College	623,277.10	0.06650131%
0996	Lone Star College	2,256,560.23	0.24076646%
0997	Austin Community College	1,726,917.95	0.18425563%
0998	Northeast Texas Community College	332,387.42	0.03546448%
<b>Total of Other Entities - Junior and Community Colleges</b>		<b>53,030,484.58</b>	



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Agency No.	Agency Name	Fiscal Year 2017 Employer Contributions	Employer Allocation Percentage
<b>Other Entities</b>			
0851	Texas Cooperative Inspection Program	276,017.66	0.02945004%
0897	Texas County District Retirement System	84,609.46	0.00902751%
0898	Texas Municipal Retirement System	70,912.56	0.00756610%
0602	Texas Turnpike Authority	391,942.18	0.04181875%
<b>Total of Other Entities</b>		<b>823,481.86</b>	
<b>GRAND TOTAL of Schedule of Employer Allocation</b>		<b>937,240,276.95</b>	100.00000000%

<sup>1</sup> State of Texas Non Employer Contributing Entity (NECE) represents the Fund 0001 portion for Junior Colleges

<sup>2</sup> Other Entities - State

- University of Texas Medical Branch at Galveston
- Community Supervision & Corrections Departments (CSCD) - Department of Criminal Justice
- UT Mental Sciences Institute

<sup>3</sup> Howard College and Southwest Collegiate Institute for the Deaf are a part of the Howard County Junior College District

The contributions for Fiscal Year 2017 are based on ERS records of employer contributions related to retirees from each of the agencies as shown in the above schedule. State agencies not appearing on the schedule did not have any OPEB employer contributions related to retirees. Certain universities have a zero allocation amount in the schedule because their employer contributions related to retirees were entirely funded by the State.

To the best of our knowledge, the information contained within this schedule is accurate and fairly presented in conformity with GASB 74 and 75.

Additional related documents available on the ERS website include:  
 Comprehensive Annual Financial Report (CAFR) for FY 2017

Governmental Accounting Standards Board (GASB) No. 74 Actuarial Valuation of the OPEB provided under the Texas Group Benefits Program (Texas GBP) for fiscal year 2017

GASB No. 75 Actuarial Valuation of the OPEB provided under the Texas GBP for fiscal year 2018

Schedule of Collective OPEB Amounts for Other Post-Employment Benefits (OPEB) Fund for ERS FY 2017



## *Section VI - Glossary*

**Actuarial Accrued Liability (Past Service Liability):** See Total OPEB Liability.

**Actuarial Gain or Loss:** From one plan year to the next, if the experience of the plan differs from that anticipated by the actuarial assumptions, an actuarial gain or loss occurs.

**Actuarial Present Value of Projected Benefit Payments:** Projected benefit payments include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of projected benefit payments as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.

**Actuarial Value of Assets:** See Fiduciary Net Position.

**Actuarially Determined Contribution (ADC):** A recommended contribution for the reporting period determined in conformity with Actuarial Standards of Practice.

**Discount Rate:** The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the actuarial present values determined using (a) the long-term rate of return for the periods during which the plan's fiduciary net position is sufficient to make the projected benefit payments and (b) the municipal bond rate for the remaining periods of the projection.

**Entry Age Actuarial Cost Method:** A method under which 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 or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the Normal Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the Total OPEB Liability (or Actuarial Accrued Liability).

**Fiduciary Net Position:** Assets plus deferred outflows of resources minus liabilities minus deferred inflows of resources. (Also known as the Actuarial Value of Assets.)

**Healthcare Cost Trend Rates:** The rates of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design and technological developments.

**Long-Term Expected Rate of Return:** The expected return on OPEB plan investments that are expected to be used to finance the payment of benefits.



**Municipal Bond Rate:** A yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale).

**Net OPEB Liability:** The liability of employers and nonemployer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is administered through a trust that meets the criteria in paragraph 4 of GASB No. 75. The Net OPEB Liability is equal to the Total OPEB Liability reduced by the Fiduciary Net Position. (Also known as the Unfunded Actuarial Accrued Liability.)

**Nonemployer Contributing Entities:** For arrangements in which OPEB is provided through an OPEB plan that is administered through a trust that meets the criteria in paragraph 4 of GASB No. 75, entities that make contributions, including amounts for OPEB as the benefits come due, to an OPEB plan that is used to provide OPEB to the employees of other entities. For arrangements in which OPEB is provided through an OPEB plan that is not administered through a trust that meets the criteria in paragraph 4 of GASB No. 75, entities that make benefit payments as OPEB comes due for employees of other entities, whether directly or through the use of the entity's assets held by others for the purpose of providing OPEB. For purposes of GASB No. 75, plan members are not considered nonemployer contributing entities.

**Normal Cost:** Computed differently under different actuarial cost methods, the Normal Cost generally represents the portion of the Actuarial Present Value of Total Projected Plan Benefits attributed to the current year of service for active employees.

**Total OPEB Liability:** The portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service in conformity with the requirements of GASB No. 75. The total OPEB liability is the liability of employers and nonemployer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is not administered through a trust that meets the criteria in paragraph 4 of GASB No. 75. (Also known as the Actuarial Accrued Liability.)

**Unfunded Actuarial Accrued Liability:** See Net OPEB Liability.



## *Appendix A*

### **Amortization Schedules of Outflows and Inflows of Resources**



## A. Schedule of Differences between Expected and Actual Experience

In accordance with Paragraph No. 86a of GASB No. 75, the effects of differences between expected and actual experience should be included in OPEB expense, beginning in the current measurement period, using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active and inactive employees) determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Measurement Period Ended 8/31	Differences Between Expected and Actual Experience <sup>1</sup>	Average Expected Remaining Service Lives (Years)	Increase (Decrease) in OPEB Expense Arising from the Effects of Differences between Expected and Actual Experience (Measurement Period Ended 8/31)									
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$(501,666,343)	5.44	\$(92,218,078)	\$(92,218,078)	\$(92,218,078)	\$(92,218,078)	\$(92,218,078)	\$(40,575,953)	\$ 0	\$ 0	\$ 0	\$ 0
Net increase (decrease) in OPEB expense			<u>\$(92,218,078)</u> <sup>2</sup>	<u>\$(92,218,078)</u>	<u>\$(92,218,078)</u>	<u>\$(92,218,078)</u>	<u>\$(92,218,078)</u>	<u>\$(40,575,953)</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

<sup>1</sup> See the Schedule of Changes in the Net OPEB Liability in Section IV.A. Positive amounts represent actual experience that increases the total OPEB liability greater than projected or decreases the total OPEB liability less than projected (experience losses) and result in increases in OPEB expense and deferred outflows of resources. Negative amounts represent actual experience that increases the total OPEB liability less than projected or decreases the total OPEB liability greater than projected (experience gains) and result in decreases in OPEB expense and increases in deferred inflows of resources.

<sup>2</sup> Amount included in OPEB expense for measurement period ended August 31, 2017. See differences between expected and actual experience in Section II.D.1.



## B. Schedule of Changes of Assumptions

In accordance with Paragraph No. 86a of GASB No. 75, the effects of changes of assumptions should be included in OPEB expense, beginning in the current measurement period, using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active and inactive employees) determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Measurement Period Ended 8/31	Changes of Assumptions <sup>1</sup>	Average Expected Remaining Service Lives (Years)	Increase (Decrease) in OPEB Expense Arising from the Effects of Changes of Assumptions (Measurement Period Ended 8/31)									
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$(8,728,820,673)	5.44	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(706,007,553)	\$ 0	\$ 0	\$ 0	\$ 0
Net increase (decrease) in OPEB expense			<u>\$(1,604,562,624)<sup>2</sup></u>	<u>\$(1,604,562,624)</u>	<u>\$(1,604,562,624)</u>	<u>\$(1,604,562,624)</u>	<u>\$(1,604,562,624)</u>	<u>\$(706,007,553)</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

<sup>1</sup> See the Schedule of Changes in the Net OPEB Liability in Section IV.A. Positive amounts represent increases in the total OPEB liability from assumption changes and result in increases in OPEB expense and deferred outflows of resources. Negative amounts represent decreases in the total OPEB liability from assumption changes and result in decreases in OPEB expense and increases in deferred inflows of resources.

<sup>2</sup> Amount included in OPEB expense for measurement period ended August 31, 2017. See changes of assumptions in Section II.D.1.



### C. Schedule of Differences between Projected and Actual Earnings on OPEB Plan Investments

In accordance with Paragraph No. 86b of GASB No. 75, the effects of differences between projected and actual earnings on OPEB plan investments should be included in OPEB expense using a systematic and rational method over a closed five-year period, beginning in the current measurement period. The following table illustrates the application of this requirement.

			Increase (Decrease) in OPEB Expense Arising from the Differences between Projected and Actual Earnings on OPEB Plan Investments (Measurement Period Ended 8/31)									
Measurement Period Ended 8/31	Differences between Projected and Actual Earnings on OPEB Plan Investments <sup>1</sup>	Closed Five-Year Period	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$ 12,609,851	5.00	\$ 2,521,970	\$ 2,521,970	\$ 2,521,970	\$ 2,521,970	\$ 2,521,971	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Net increase (decrease) in OPEB expense			<u>\$ 2,521,970</u> <sup>2</sup>	<u>\$ 2,521,970</u>	<u>\$ 2,521,970</u>	<u>\$ 2,521,970</u>	<u>\$ 2,521,971</u>	<u>\$ 0</u>				

<sup>1</sup> Amounts are equal to net investment income (see the Schedule of Changes in the Net OPEB Liability in Section IV.A.) less projected earnings (see the projected earnings on OPEB plan investments in Section II.D.1.). Positive amounts represent investment returns that are less than projected and, therefore, increase OPEB expense. Negative amounts represent investment returns that are greater than projected and, therefore, decrease OPEB expense.

<sup>2</sup> Amount included in OPEB expense for measurement period ended August 31, 2017. See differences between projected and actual earnings on OPEB plan investments in Section II.D.1.



*Appendix B*

**Determination of Balances of Deferred Outflows of Resources and  
Deferred Inflows of Resources Related to OPEB  
at August 31, 2017 Measurement Date**



**A. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience**

Measurement Period Ended 8/31	Experience Losses <sup>1</sup> (a)	Experience Gains <sup>1</sup> (b)	Amounts Included in OPEB Expense through 8/31/2017 <sup>2</sup> (c)	Balances at 8/31/2017 <sup>3</sup>	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2017	N/A	\$(501,666,343)	\$ (92,218,078)	N/A	\$(409,448,265)
				<u>\$ 0</u>	<u>\$(409,448,265)</u>

<sup>1</sup> See the Schedule of Changes in the Net OPEB Liability in Section IV.A. or the Schedule of Differences between Expected and Actual Experience in Appendix A. Experience losses are presented as positive amounts. Experience gains are presented as negative amounts.  
<sup>2</sup> Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 in Appendix A for the differences between expected and actual experience in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.  
<sup>3</sup> Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts.

**B. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions**

Measurement Period Ended 8/31	Increases in the Total OPEB Liability <sup>1</sup> (a)	Decreases in the Total OPEB Liability <sup>1</sup> (b)	Amounts Included in OPEB Expense through 8/31/2017 <sup>2</sup> (c)	Balances at 8/31/2017 <sup>3</sup>	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2017	N/A	\$(8,728,820,673)	\$(1,604,562,624)	N/A	\$(7,124,258,049)
				<u>\$ 0</u>	<u>\$(7,124,258,049)</u>

<sup>1</sup> See the Schedule of Changes in the Net OPEB Liability in Section IV.A. or the Schedule of Changes of Assumptions in Appendix A.  
<sup>2</sup> Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 in Appendix A for the changes of assumptions in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.  
<sup>3</sup> Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts.



**C. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on OPEB Plan Investments**

Measurement Period Ended 8/31	Investment Earnings Less Than Projected <sup>1</sup> (a)	Investment Earnings Greater Than Projected <sup>1</sup> (b)	Amounts Included in OPEB Expense through 8/31/2017 <sup>2</sup> (c)	Balances at 8/31/2017 <sup>3</sup>	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2017	\$ 12,609,851	N/A	\$ 2,521,970	\$ 10,087,881	N/A
				<u>\$ 10,087,881</u>	<u>\$ 0</u>

<sup>1</sup> Amounts equal to net investment income (see the Schedule of Changes in the Net OPEB Liability in Section IV.A.) less projected earnings (see the projected earnings on OPEB plan investments in Section I.D.1.). See the Schedule of Differences between Projected and Actual Earnings on OPEB Plan Investments in Appendix A. Investment earnings less than projected are presented as positive amounts. Investment earnings greater than projected are presented as negative amounts.

<sup>2</sup> Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 in Appendix A for the differences between projected and actual earnings on OPEB plan investments in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.

<sup>3</sup> Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts. In conformity with Paragraph No. 86b of GASB No. 75, deferred outflows of resources and deferred inflows of resources arising from differences between projected and actual earnings on OPEB plan investments in different measurement periods are aggregated and reported as a net deferred outflow of resources or a net deferred inflow of resources. Therefore, at August 31, 2017, there is a net deferred outflow of resources arising from differences between projected and actual earnings on OPEB plan investments of \$10,087,881, calculated as the deferred outflow balance of \$10,087,881 net of the deferred inflow balance of \$0.



**D. Statement of Outflows and Inflows Arising from Current and Prior Measurement Periods for Measurement Year Ending August 31, 2017 to be used for Governmental Employer Reporting for 2018 Fiscal Years Ending on or before August 31, 2018**

**1. New Deferred Outflows and Inflows of Resources by Source Established in Fiscal Year**

	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
a. Differences between expected and actual experience	\$ 0	\$ 501,666,343	\$ (501,666,343)
b. Changes of assumptions	0	8,728,820,673	(8,728,820,673)
c. Net difference between projected and actual earnings on OPEB plan investments	<u>12,609,851</u>	<u>0</u>	<u>12,609,851</u>
<b>d. Total</b>	\$ 12,609,851	\$ 9,230,487,016	\$ (9,217,877,165)

**2. Outflows and Inflows of Resources by Source to be Recognized in Current OPEB Expense**

	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
a. Differences between expected and actual experience	\$ 0	\$ 92,218,078	\$ (92,218,078)
b. Changes of assumptions	0	1,604,562,624	(1,604,562,624)
c. Net difference between projected and actual earnings on OPEB plan investments	<u>2,521,970</u>	<u>0</u>	<u>2,521,970</u>
<b>d. Total</b>	\$ 2,521,970	\$ 1,696,780,702	\$ (1,694,258,732)

**3. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future OPEB Expenses**

	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
a. Differences between expected and actual experience	\$ 0	\$ 409,448,265	\$ (409,448,265)
b. Changes of assumptions	0	7,124,258,049	(7,124,258,049)
c. Net difference between projected and actual earnings on OPEB plan investments <sup>1</sup>	<u>10,087,881</u>	<u>0</u>	<u>10,087,881</u>
<b>d. Total</b>	\$ 10,087,881	\$ 7,533,706,314	\$ (7,523,618,433)

<sup>1</sup> Contributions made after the measurement date of August 31, 2017 and before the cost-sharing employer's Fiscal Year End need to be recognized as deferred outflows in accordance with Paragraph No. 68 of GASB No. 75. At the end of FY18, each reporting entity shall determine their contributions during this period and add this amount to their allocated portion of these deferred outflows.



**4. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future OPEB Expenses**

<b>Fiscal Year End</b>	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
2019	\$ 2,521,970	\$1,696,780,702	\$(1,694,258,732)
2020	2,521,970	1,696,780,702	(1,694,258,732)
2021	2,521,970	1,696,780,702	(1,694,258,732)
2022	2,521,971	1,696,780,702	(1,694,258,731)
2023	0	746,583,506	(746,583,506)
Thereafter	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$ 10,087,881</b>	<b>\$7,533,706,314</b>	<b>\$(7,523,618,433)</b>