Texas Emergency Services Retirement System

Actuarial Report of GASB 68 Information for the State of Texas for the Fiscal Year Ending August 31, 2022

January 12, 2022

Rudd and Wisdom, Inc.

Rudd and Wisdom, Inc.

CONSULTING ACTUARIES

January 12, 2022

<u>Via E-Mail: Shirley.Hays@tesrs.texas.gov</u>
Ms. Shirley Hays, Executive Director
Texas Emergency Services Retirement System
Post Office Box 12577
Austin, TX 78711-2577

Re: GASB 68 Information for the State of Texas
for the Fiscal Year Ending August 31, 2022

Dear Ms. Hays:

At your request, we have prepared an actuarial report providing information for the Texas Emergency Services Retirement System (the System) that may be used for the audited annual financial report (AFR) for the State of Texas for the fiscal year ending August 31, 2022. This information is required for their compliance with Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions*. The information is based on (1) a **measurement date for the System of August 31, 2021**, based on the actuarial valuation of the System as of August 31, 2020, including the actuarial assumptions and census data summarized in our report to the board of trustees dated December 1, 2020, and (2) the System's audited AFR for the year ending August 31, 2021.

The language of GASB 68 says the total pension liability should be determined by (a) an actuarial valuation as of the measurement date or (b) the use of update procedures to roll forward to the measurement date amounts from an actuarial valuation as of a date no more than 30 months and one day earlier than the employer's most recent fiscal year end. For this report, the actuarial valuation as of August 31, 2020 was rolled forward to the measurement date.

The amounts of the pension expense and of the net pension liability shown in this report are the total amounts for the System. Similarly, the deferred outflow of resources and deferred inflow of resources shown are the total amounts for the System. The State's pension

9500 Arboretum Blvd., Suite 200
Austin, Texas 78759
www.ruddwisdom.com
Phone: (512) 346-1590
Fax: (512) 345-7437

expense and net pension liability amounts are its proportionate share of the System total amounts. The System developed a separate schedule of each participating entity's portion (percent) and the State's portion of the System's total amounts for the plan year ending on the August 31, 2021 measurement date. This report uses the State's portion (27.562%) and shows the State's proportionate share of the System total pension expense and net pension liability. The State is responsible for applying paragraphs 103 through 105 of GASB 68 to the extent they are applicable (elements of pension expense specific to the State). For applying those paragraphs, the State will need the "average of the expected remaining service lives" (as defined by GASB 68). As of August 31, 2020, it was 2.55 years. The State is also responsible for disclosing the items in paragraphs 106, 113(g), and 113(h) of GASB 68 to the extent they are applicable.

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; and
- Changes in plan provisions or applicable law.

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, except as required by GASB 68.

Required Supplementary Information

The schedules of required supplementary information (RSI) in Section II of the report provide what is required in paragraphs 114(a) and 114(b) of GASB 68. Because of the one year lag between the measurement dates and the ending date of the fiscal years for the State, the statutorily required contributions to the System should be for the State's fiscal year, not for the System's plan year ending on the measurement date.

We hereby certify that we 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. We do not have any relationship with the System or with the State of Texas which might impair, or appear to impair, the objectivity of our services for the System.

Sincerely,

Mark R. Fenlaw

Mark R. Fenlaw, F.S.A.

Rebecca B. Morris

Rebecca B. Morris, A.S.A.

MRF/RBM:nlg

cc: Mr. David Tropea

I:\CLIENTS\FIRE\WD\2022\statewide\tesrsGasb68Aug2021-report1.docx

TABLE OF CONTENTS

Section I – Information to Comply with GASB Statement No. 68

A. General Information about the System

1. Plan Description

The Texas Emergency Services Retirement System (TESRS) administers a cost-sharing multiple employer pension system (the System) established and administered by the State of Texas to provide pension benefits for emergency services personnel who serve without significant monetary remuneration. Direct financial activity for the System is classified in the financial statements as pension trust funds. The System issues a stand-alone financial report that is available to the public at www.tesrs.texas.gov.

Of the nine member state board of trustees, at least five trustees must be active members of the pension system, one of whom must represent emergency medical services personnel. One trustee may be a retiree of the pension system, and three trustees must be persons who have experience in the fields of finance, securities investment, or pension administration. On August 31, 2021, there were 239 contributing fire and/or emergency services department members participating in TESRS. Eligible participants include volunteer emergency services personnel who are members in good standing of a member department.

2. Benefits Provided

Senate Bill 411, 65th Legislature, Regular Session (1977), created TESRS and established the applicable benefit provisions. The 79th Legislature, Regular Session (2005), re-codified the provisions and gave the TESRS Board of Trustees authority to establish vesting requirements, contribution levels, benefit formulas, and eligibility requirements by board rule. The benefit provisions include retirement benefits as well as death and disability benefits. Members are 50% vested after the tenth year of service, with the vesting percent increasing 10% for each of the next five years of service so that a member becomes 100% vested with 15 years of service.

Upon reaching age 55, each vested member may retire and receive a monthly pension equal to his vested percent multiplied by six times the governing body's average monthly contribution over the member's years of qualified service. For years of service in excess of 15 years, this monthly benefit is increased at the rate of 6.2% compounded annually. There is no provision for automatic postretirement benefit increases.

On and off-duty death benefits and on-duty disability benefits are dependent on whether or not the member was engaged in the performance of duties at the time of death or disability. Death benefits include a lump sum amount or continuing monthly payments to a member's surviving spouse and dependent children.

3. Covered Membership

On August 31, 2021, the pension system membership consisted of:

Retirees and beneficiaries currently receiving benefits	3,843
Terminated members entitled to but not yet receiving benefits	1,706
Active participants	3,571

4. Contribution Policy

Contributions are made by governing bodies for the participating departments. No contributions are required from the individuals who are members of the System, nor are they allowed. The governing bodies of each participating department are required to make contributions for each month a member performs emergency services for a department (this minimum contribution is $36 per member and the department may make a higher monthly contribution for its members). This is referred to as a Part One contribution, which is the legacy portion of the System contribution that directly impacts future retiree annuities.

The state is required to contribute an amount necessary to make the System "actuarially sound" each year, which may not exceed one-third of the total of all contributions made by participating governing bodies in a particular year.

The board rule defining contributions was amended effective July 27, 2014 to add the potential for actuarially determined Part Two contributions that would be required only if the expected future annual contributions from the state are not enough with the Part One contributions to provide an adequate contribution arrangement as determined by the most recent actuarial valuation. This Part Two portion, which is actuarially determined as a percent of the Part One portion (not to exceed 15%), is to be actuarially adjusted every two years based on the most recent actuarial valuation. Based on the August 31, 2020 actuarial valuation, the Part Two contributions are not required for an adequate contribution arrangement.

Additional contributions may be made by governing bodies within two years of joining the System, to grant up to 15 years of credit for service per member. Prior service purchased must have occurred before the department began participation in the System.

A small subset of participating departments have a different contribution arrangement which is being phased out over time. In this arrangement, contributions made in addition to the monthly contributions for active members, are made by local governing bodies on a pay-as-you-go basis for members who were pensioners when their respective departments merged into the System. There is no actuarial impact associated with this arrangement as the pay-as-you-go contributions made by these governing bodies are always equal to benefit payments paid by the System.

5. Contributions Required and Contributions Made

The contribution requirement per active emergency services personnel member per month is not actuarially determined. Rather, the minimum contribution provisions are set by board rule, and there is no maximum contribution rate. For the fiscal year ending August 31, 2021, total contributions of $3,813,748 were paid into TESRS by the political subdivisions served by the member volunteer emergency services personnel. The state appropriated $1,329,224 for the fiscal year ending August 31, 2021.

The purpose of the biennial actuarial valuation is to determine if the contribution arrangement is adequate to pay the benefits that are promised. Actuarial assumptions are disclosed in Section I(B)(1).

The most recently completed biennial actuarial valuation as of August 31, 2020 stated that TESRS has an adequate contribution arrangement for the benefit provisions recognized in the valuation based on the expected total contributions, including the expected contributions both from the governing body of each participating department and from the state. The expected contributions from the state are state appropriations equal to (1) the maximum annual contribution (one-third of all contributions to TESRS by governing bodies of participating departments in a year) as needed in accordance with state law governing TESRS and (2) approximately $675,000 each year to pay for part of the System's administrative expenses.

B. Net Pension Liability

The System's net pension liability was **measured as of August 31, 2021**, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of August 31, 2020 and rolled forward to August 31, 2021.

Total pension liability	$ 155,683,765
Plan fiduciary net position	144,969,613
System's net pension liability	$ 10,714,152
Plan fiduciary net position as a percentage of the total pension liability	93.1%
State's proportion	27.562%
State's net pension liability	$ 2,953,035

1. Actuarial Assumptions

The total pension liability in the August 31, 2020 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.0%
Salary increases	N/A
Investment rate of return	7.5%, net of pension plan investment expense, including inflation

Mortality rates were based on the PubS-2010 (public safety) below-median income mortality tables for employees and for retirees, projected for mortality improvement generationally using projection scale MP-2019.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future net real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These components are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage (currently 4.6%) and by adding expected inflation (3.0%). In addition, the final 7.5% assumption was selected by rounding down. The target allocation and expected arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Net Real Rate of Return
Equities		
Large cap domestic	20%	5.83%
Small/mid cap domestic	10	5.94
Developed international	15	6.15
Emerging markets	5	7.25
Global infrastructure	5	6.41
Real estate	10	4.48
Multi asset income	5	3.84
Fixed income	30	1.99
Cash	0	0.00
Total	100%	
Weighted average		4.60%

2. Discount Rate

The discount rate used to measure the total pension liability was 7.5%. No projection of cash flows was used to determine the discount rate because the August 31, 2020 actuarial valuation showed that expected contributions would pay the normal cost and amortize the unfunded actuarial accrued liability (UAAL) in 30 years using the level dollar amortization method. Because of the 30-year amortization period with the amortization method, the pension plan's fiduciary net position is expected to be available to make all projected future benefit payments of current active and inactive members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

The following presents the net pension liability of the System, calculated using the discount rate of 7.5%, compared to what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.5%) or 1 percentage point higher (8.5%) than the current rate:

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
System's net pension liability	$35,017,805	$10,714,152	$(5,510,061)

4. Plan Fiduciary Net Position

The plan fiduciary net position reported above is the same as reported by the System. Detailed information about the plan fiduciary net position is available in the System's separately issued audited financial statements at www.tesrs.texas.gov, which are reported using the economic resources measurement focus and the accrual basis of accounting in conformity with accounting principles generally accepted in the United States of America. Revenues are recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Investments are reported at fair value, the price that would be recognized to sell an asset in an orderly transaction between market participants at the measurement date.

C. Changes in the Net Pension Liability

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Measurement Date of August 31, 2020	$ 150,440,543	$ 125,229,661	$ 25,210,882
Changes for the year:			
Service cost	1,556,329		1,556,329
Interest	11,120,987		11,120,987
Change in benefit provisions	0		0
Differences between expected and actual experience	0		0
Contributions for participating departments		3,813,748	(3,813,748)
Contributions by the state		1,329,224	(1,329,224)
Net investment income		22,299,492	(22,299,492)
Benefit payments	(7,434,094)	(7,434,094)	0
Administrative expenses		(268,418)	268,418
Assumption changes	0		0
Net changes	5,243,222	19,739,952	(14,496,730)
Measurement Date of August 31, 2021[1]	$ 155,683,765	$ 144,969,613	$ 10,714,152

[1] The amounts presented for the State's fiscal year ending August 31, 2022 were determined for the System's plan year ending as of August 31, 2021.

D. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the fiscal year ending August 31, 2022, the State's GASB 68 pension expense is its proportionate share of the total pension expense, $3,441. Amounts recognized in the total pension expense represent changes between the System's current and prior measurement dates, August 31, 2021 and August 31, 2020, respectively.

1. Components of Pension Expense for the State's Fiscal Year Ending August 31, 2022

Components of Pension Expense	
Service Cost	$ 1,556,329
Interest	11,120,987
Participant contributions	0
Projected earnings on pension plan investments	(9,250,839)
Amortization of differences between projected and actual earnings on plan investments	(2,878,995)
Amortization of changes of assumptions	(26,596)
Amortization of differences between expected and actual experience	(776,820)
Pension plan administrative expenses	268,418
Changes in benefit provisions	0
Total pension expense	$ 12,484
State's proportion	27.562%
State's pension expense	$ 3,441

2. Deferred Outflows of Resources and Deferred Inflows of Resources to Be Recognized in Pension Expense in Future Years

	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on pension plan investments	$ 0	$ 10,032,872
Changes of assumptions	0	14,628
Differences between expected and actual experience	0	423,853
Total	$ 0	$ 10,471,353

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

Fiscal Year with Measurement Date of August 31	Net of Deferred Outflows Minus Deferred Inflows
2022	$ (2,830,051)
2023	(1,742,895)
2024	(3,288,676)
2025	(2,609,731)
2026	0
Thereafter	0
Total	$ (10,471,353)

The total of the contributions by the State to the System contributed for the period subsequent to the measurement date of August 31, 2021 and through the end of the State's fiscal year ending August 31, 2022 is a deferred outflow of resources that will be recognized as a reduction in the net pension liability in the next fiscal year. **This amount will be disclosed by the State.**

Section II – Schedules of Required Supplementary Information

A. Schedule of Share of the System's Net Pension Liability and Related Ratios for the Last 10 Fiscal Years[9]

	Fiscal Year Ending 8/31/2022[1]	Fiscal Year Ending 8/31/2021[2]	Fiscal Year Ending 8/31/2020[3]	Fiscal Year Ending 8/31/2019[4]	Fiscal Year Ending 8/31/2018[5]	Fiscal Year Ending 8/31/2017[6]	Fiscal Year Ending 8/31/2016[7]	Fiscal Year Ending 8/31/2015[8]
1. Participating entity's proportion of System's total net pension liability (NPL)	27.562%	28.51%	29.6627%	27.754%	32.748%	34.571%	34.663%	33.792%
2. Participating entity's proportionate share of System's total NPL	$2,953,035	$7,187,622	$8,408,059	$6,008,866	$7,860,070	$10,069,876	$9,252,432	$6,140,562
3. Fiduciary net position as a percentage of System's total pension liability	93.1%	83.2%	80.2%	84.3%	81.4%	76.3%	76.9%	83.5%

B. Schedule of Contributions for the Last 10 Fiscal Years[9]

	Fiscal Year Ending 8/31/2022	Fiscal Year Ending 8/31/2021	Fiscal Year Ending 8/31/2020	Fiscal Year Ending 8/31/2019	Fiscal Year Ending 8/31/2018	Fiscal Year Ending 8/31/2017	Fiscal Year Ending 8/31/2016	Fiscal Year Ending 8/31/2015
1. Statutorily required contributions	$________[10]	$1,329,224	$1,329,224	$1,329,224	$1,329,224	$1,583,825	$1,583,825	$1,637,308
2. Contributions recognized by the System in relation to Item 1	$________[10]	$1,329,224	$1,329,224	$1,329,224	$1,329,224	$1,583,825	$1,583,825	$1,637,308
3. Annual contribution deficiency (excess) [Item 2 - Item 1]	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

Notes to Schedules A and B
1 Associated with System measurement date of August 31, 2021 and NPL of $10,714,152.
2 Associated with System measurement date of August 31, 2020 and NPL of $25,210,882.
3 Associated with System measurement date of August 31, 2019 and NPL of $28,345,563.
4 Associated with System measurement date of August 31, 2018 and NPL of $21,650,451.
5 Associated with System measurement date of August 31, 2017 and NPL of $24,001,678.
6 Associated with System measurement date of August 31, 2016 and NPL of $29,128,103.
7 Associated with System measurement date of August 31, 2015 and NPL of $26,692,531.
8 Associated with System measurement date of August 31, 2014 and NPL of $18,171,643.
9 Until a full ten-year trend is compiled, only available information is shown.
10 This amount will be provided by the State.

Section III – Amortization Schedules

A. Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Pension Plan Investments

Measurement Date Year Difference Occurred	Differences between Projected and Actual Earnings	Amortization Period	Recognized Outflow (Inflow) of Resources Recognized in Fiscal Year with Measurement Date of					
			August 31, 2021	August 31, 2022	August 31, 2023	August 31, 2024	August 31, 2025	August 31, 2026
2017	$ (2,437,138)	5 yrs	$ (487,427)	$ 0	$ 0	$ 0	$ 0	$ 0
2018	(3,243,376)	5 yrs	(648,675)	(648,675)	0	0	0	0
2019	7,728,909	5 yrs	1,545,781	1,545,781	1,545,781	0	0	0
2020	(3,394,726)	5 yrs	(678,945)	(678,945)	(678,945)	(678,945)	0	0
2021	(13,048,653)	5 yrs	(2,609,729)	(2,609,731)	(2,609,731)	(2,609,731)	(2,609,731)	0

Net increase (decrease) for A $ (2,878,995)

B. Increase (Decrease) in Pension Expense Arising from the Recognition of Changes in Assumptions

Measurement Date Year Difference Occurred	Changes in Assumptions	Amortization Period	Recognized Outflow (Inflow) of Resources Recognized in Fiscal Year with Measurement Date of					
			August 31, 2021	August 31, 2022	August 31, 2023	August 31, 2024	August 31, 2025	August 31, 2026
2016	$ 809,002	3.30 yrs	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2020	(67,820)	2.55 yrs	(26,596)	(14,628)	0	0	0	0

Net increase (decrease) for B $ (26,596)

C. Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience

Measurement Date Year Difference Occurred	Differences between Expected and Actual Experience	Amortization Period	Recognized Outflow (Inflow) of Resources Recognized in Fiscal Year with Measurement Date of					
			August 31, 2021	August 31, 2022	August 31, 2023	August 31, 2024	August 31, 2025	August 31, 2026
2016	$ 64,648	3.30 yrs	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2018	(90,439)	3.22 yrs	(6,178)	0	0	0	0	0
2020	(1,965,137)	2.55 yrs	(770,642)	(423,853)	0	0	0	0

Net increase (decrease) for C $ (776,820)

Net for future years (A+B+C)	$ (2,830,051)	$ (1,742,895)	$ (3,288,676)	$ (2,609,731)	$ 0