Conrad Siegel

August 28, 2019

Mr. Richard Kerr
Big Spring School District
45 Mount Rock Road
Newville, PA 17241

Re: Big Spring School District Postemployment Benefits Plan

Dear Rick:

I am attaching the actuarial valuation as of July 1, 2018, for the fiscal year ending June 30, 2019, which has been prepared in accordance with Governmental Accounting Standards Board Statement No. 75 (GASB 75).

**GASB 75 Background**

The purpose of GASB 75 is to have employers identify the promises they make with respect to postemployment benefits and to reasonably quantify their cost. In the most general sense, employers must attribute the future cash flow for postemployment benefits over the employee's working lifetime.

GASB 75 does not have any impact on your annual operating budget unless a decision is made to separately fund the liability. The key accounting figures are:

- The "OPEB Expense", which is the expense reported on the income statement.
- The "Net OPEB Liability", which is the liability reported on the year-end balance sheet.

**Actuarial Valuation**

The results presented in the actuarial valuation will be used in preparation of your financial statements. At the beginning of the actuarial valuation you will find a Summary of Plan Provisions outlining the benefits valued in the report, as well as a section describing the Actuarial Assumptions and Methods used. The GASB 75 reporting section will provide the following:

- Summary of key results
- Changes in the Net OPEB Liability from the prior year
- Deferred Outflows/Inflows of Resources and the sensitivity of the Net OPEB Liability under key assumption changes

- Development of OPEB Expense and disclosure of future recognition of Deferred Outflows/Inflows of Resources
- Detailed amortization schedule of Deferred Outflows/Inflows of Resources bases
- Schedule of Required Supplementary Information

**Results**

Pursuant to GASB 75, an actuarial valuation can be used over a two-year period. The figures in this report are reflected as of the measurement date for the fiscal year ending June 30, 2019 and are based on an actuarial valuation date or rolled forward from an actuarial valuation date. A new valuation should be performed if, between the actuarial valuation date and measurement date, material changes have occurred that affect the results of this valuation, including significant changes in benefit provisions, the size or composition of the population covered by the plan, or other changes that impact long-term assumptions.

The Deferred Outflows of Resources figure that is provided in this report includes an estimate of plan benefit payments. Additionally, the Net OPEB Liability and OPEB Expense figures also incorporate estimated plan benefit payments in their determinations. Your accountant will likely accept our estimate as the best available figure for the determination; however, you may reflect actual benefit payments rather than our estimate. In order to use actual benefit payments, we believe retiree claim experience would need to be tracked separately from active employee claim experience. You may not simply use premiums paid because the premiums do not reflect the hidden subsidy.

Please do not hesitate to contact me to discuss the report or any questions you or your accountant might have.

Yours sincerely,

Laura V Hess

Laura V. Hess, FSA, EA, MAAA
Partner & Consulting Actuary

# Actuarial Valuation for Other Postemployment Benefits Accounting

As of July 1, 2018

## Big Spring School District Postemployment Benefits Plan

For purposes of
Governmental Accounting Standards Board Statement No. 75
for Fiscal Year July 1, 2018 to June 30, 2019

Conrad Siegel

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## Purpose

Actuarial computations under Governmental Accounting Standards Board Statement No. 75 (GASB No. 75) are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been performed in accordance with generally accepted actuarial principles and practices, and on a basis consistent with our understanding of GASB No. 75. In preparing this report, we have relied upon information furnished to us by Big Spring School District. This information includes data pertaining to the Plan, as well as a description of the substantive plan. The information has been reviewed and determined to be reasonable and consistent; however, we have not audited the data or reviewed plan provisions for compliance with IRS or DOL regulations.

Determinations for purposes other than meeting the employer financial accounting requirements may be significantly different from the results reported herein. The funded status, measured by comparing the Accrued Liability against the Actuarial Value of Plan Assets, is not an appropriate measure for assessing the sufficiency of the plan assets to cover the estimated cost of settling the plan's benefit obligations upon plan termination nor is it appropriate for measuring the need for, or the amount of, future contributions. Accordingly, additional determinations are needed for other purposes, such as judging benefit security at termination or adequacy of funding for an ongoing plan. The actuarial calculations contained in this report are not intended or written to be used, and cannot be used, for the purposes of avoiding penalties under the Internal Revenue Code.

This valuation involves estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Calculations are based on the types of benefits provided under the terms of the substantive plan at the time of the valuation and on the pattern of sharing of costs between the employer and plan members to that point. Calculations reflect a long-term perspective, so methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

## Benefits Not Included

Defined contribution benefits and insured benefits under GASB No. 75 paragraph 11, pension benefits accounted for under GASB 68, and benefits for compensated absences under GASB 16 are not included in this valuation.

## Multiple Year Reporting

Pursuant to GASB No. 75, an actuarial valuation can be used over a two-year period. The figures in this report are reflected as of the measurement date for the specified fiscal year and are based on an actuarial valuation date or rolled forward from an actuarial valuation date. Some figures have been determined based on estimated contributions for the period. These figures may need to be adjusted for actual contributions deposited to the trust or claims paid on behalf of plan benefits.

A new valuation should be performed if, between the actuarial valuation date and measurement date, material changes have occurred that affect the results of this valuation, including significant changes in benefit provisions, the size or composition of the population covered by the plan, or other changes that impact long-term assumptions. If roll forward procedures have been used, this report reflects any necessary adjustments to the interest rate as of the measurement date.

I am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this valuation.



Laura V. Hess, FSA, EA, MAAA
Partner & Consulting Actuary

August 28, 2019
Date

LVH/ENM

| GROUP | ELIGIBILITY | COVERAGE AND PREMIUM SHARING | DURATION |
|---|---|---|---|
| ***I. ADMINISTRATORS*** | | | |
| A) Retired before July 1, 2011 | N/A – already retired | • Coverage: Medical, Prescription Drug, Dental, and Vision<br>• Premium Sharing: The member and dependents may elect medical, prescription drug, dental, and vision coverage upon retirement. If the member is eligible for the subsidized benefit, the district will pay for 50% of the medical and prescription drug premiums for the member and dependents. The member and dependents may elect dental and vision coverage by paying the full premiums.<br>If the member is not eligible for the subsidized benefit but has retired through PSERS, the member and family may continue coverage by paying the full premiums.<br>• Dependents: Families included | Benefits cease upon member Medicare age with the exception of dental and vision coverage which can continue for life. |
| B) Retired between July 1, 2011 and June 30, 2017 | Subsidized – 30 years with the district with a minimum of 5 years as an Administrator<br>Unsubsidized – retirement through PSERS | • Coverage: Medical, Prescription Drug, Dental, and Vision<br>• Premium Sharing: The member and dependents may elect medical, prescription drug, dental, and vision coverage upon retirement. If the member is eligible for the subsidized benefit, the district will contribute up to $4,000 towards the medical and prescription drug premiums. The member may elect dental and vision coverage by paying the full premiums. Dependents may elect coverage by paying the full premiums.<br>If 5 years of the district subsidy are exhausted, or the member is not eligible for the subsidized benefit but has retired through PSERS, the member and dependents may continue coverage by paying the full premiums.<br>• Dependents: Families included<br>---<br>Special Agreement: One retiree is eligible to receive family coverage by paying the active premium share (17.5%) until March 31, 2019 after which she may continue coverage by paying the full premium until Medicare age. | Same as IA |
| C) Retired on for after July 1, 2017 | Same as IB | Same as IB, except retirees no longer receive dental and vision coverage. | Same as IA |

| | | | |
|---|---|---|---|
| ***II. TEACHERS*** | | | |
| A) Retired before July 1, 2011 | N/A – already retired | • Coverage: Medical, Prescription Drug, Dental, and Vision<br>• Premium Sharing: The member and dependents may elect medical, prescription drug, dental, and vision coverage upon retirement. If the member is eligible for the subsidized benefit, the district will pay for 50% of the medical and prescription drug premiums for the member and dependents. This coverage will cease upon the earlier of 5 years and member Medicare age. The member and dependents may elect dental and vision coverage by paying the full premiums.<br>If 5 years of the district subsidy are exhausted, or the member is not eligible for the subsidized benefit but has retired through PSERS, the member and dependents may continue coverage by paying the full premiums.<br>• Dependents: Families included | Same as IA |
| B) Retired between July 1, 2011 and June 30, 2017 | Subsidized – 30 years with the district<br>Unsubsidized – retirement through PSERS | Same as IB | Same as IA |
| C) Retired on for after July 1, 2017 | Same as IIB | Same as IB, except retirees no longer receive dental and vision coverage. | Same as IA |
| ***III. CLASSIFIED EMPLOYEES*** | | | |
| A) Hired before July 1, 2007 and retired before July 1, 2011 | N/A – already retired | Same as IIA | Same as IA |
| B) Hired before July 1, 2007 and retired on or after July 1, 2011 | Subsidized – 30 years with the district<br>Unsubsidized – retirement through PSERS | Same as IB | Same as IA |
| C) Hired after July 1, 2007 | Retirement through PSERS | • Coverage: Medical, Prescription Drug, Dental, and Vision<br>Premium Sharing: The member and dependents may elect medical, prescription drug, dental, and vision by paying the full premiums. Members retiring after July 1, 2017 are no longer able to elect dental and vision coverage.<br>• Dependents: Families included | Same as IA |

***Notes:*** PSERS Retirement:

1) For individuals who were members of PSERS prior to July 1, 2011, an employee is eligible for PSERS retirement if he (or she) is eligible for either: 1) PSERS early retirement while under 62 with 5 years of PSERS Service or 2) PSERS superannuation retirement upon reaching age 60 with 30 years of PSERS service, age 62 with 1 year of PSERS service or 35 years of PSERS service regardless of age.
2) For individuals who became members of PSERS on or after July 1, 2011, an employee is eligible for PSERS retirement if he (or she) is eligible for either: 1) PSERS early retirement while under 65 with 10 years of PSERS Service or 2) PSERS superannuation retirement upon reaching age 65 with 3 years of PSERS service or upon attainment of a total combination of age plus service equal to or greater than 92 with a minimum of 35 years of PSERS service.
3) All individuals are eligible for a special early retirement upon reaching age 55 with 25 years of PSERS service.

Coordination with Medicare: The group medical plan pays primary to Medicare.

## Discount Rate

2.98% Based on S&P Municipal Bond 20-Year High Grade Rate Index at July 1, 2018.

## Salary

An assumption for salary increases is used only for spreading contributions over future pay under the entry age normal cost method. For this purpose, salary increases are composed of a 2.5% cost of living adjustment, 1% real wage growth, and for teachers and administrators a merit increase which varies by age from 2.75 to 0%.

## Withdrawal

Rates of withdrawal vary by age, gender and years of service. Sample rates for employees with more than 10 years of service are shown below. Rates for new employees start at 22.9% for both men and women and decrease with age and service.

| Age | Male Rate | Female Rate | Age | Male Rate | Female Rate |
|---|---|---|---|---|---|
| 25 | 2.5700% | 5.0200% | 45 | 1.3700% | 1.6500% |
| 30 | 2.5700% | 4.0200% | 50 | 1.9200% | 2.0600% |
| 35 | 1.5000% | 2.8500% | 55 | 3.3800% | 3.1100% |
| 40 | 1.3400% | 1.6000% | 60 | 5.5700% | 6.4000% |

## Mortality

Separate rates are assumed preretirement and postretirement using the rates assumed in the PSERS defined benefit pension plan actuarial valuation.

Incorporated into the table are rates projected generationally by the Buck Modified 2016 projection scale to reflect mortality improvement.

## Disability

No disability was assumed.

## Retirement

Assumed retirement rates are based on PSERS plan experience and vary by age, service and gender.

| | Age 55 & 25 years of service | | Superannuation | |
|---|---|---|---|---|
| Age | Male | Female | Male | Female |
| 55 | 19% | 19% | 27% | 10% |
| 56 | 17% | 17% | 32% | 30% |
| 57 | 17% | 17% | 32% | 30% |
| 58 | 17% | 17% | 32% | 35% |
| 59 | 22% | 21% | 31% | 36% |
| 60 | 14% | 17% | 31% | 36% |
| 61 | 29% | 30% | 29% | 31% |
| 62 | 51% | 61% | 51% | 61% |
| 63 | 26% | 26% | 26% | 26% |
| 64 | 21% | 22% | 21% | 22% |
| 65 | 100% | 100% | 100% | 100% |

## Percent of Eligible Retirees Electing Coverage in Plan

100% of Teachers and Administrators eligible to receive a subsidy are assumed to elect coverage, and if the subsidy exhausts prior to the member reaching Medicare age, 75% are assumed to elect coverage thereafter. 75% of Teachers and Administrators not eligible to receive a subsidy are assumed to elect coverage. Support Staff employees eligible to receive a subsidy prior to Medicare age are assumed to follow the same election percentages as Teachers and Administrators. 40% of Support Staff employees never eligible to receive asubsidy are assumed to elect coverage.

## Percent Married at Retirement

25% of employees are assumed to be married and have a spouse covered by the plan at retirement. Non-spouse dependents are deemed to be immaterial.

## Spouse Age

Wives are assumed to be two years younger than their husbands.

## Per Capita Claims Cost

The per capita claims cost for medical and prescription drug is based on the expected portion of the group's overall cost attributed to individuals in the specified age and gender brackets. Dental and vision costs are assumed to not vary with age or gender. The resulting costs are as follows:

| | Medical and Prescription Drug Combined | |
|---|---|---|
| Age | Males | Females |
| 45-49 | $5,745 | $8,297 |
| 50-54 | $7,609 | $9,378 |
| 55-59 | $9,267 | $9,812 |
| 60-64 | $12,094 | $11,272 |
| 65+ | $15,485 | $14,428 |

## Retiree Contributions

Retiree contributions are assumed to increase at the same rate as the Health Care Cost Trend Rate.

## Health Care Cost Trend Rate

6.0% in 2018, and 5.5% in 2019 through 2021. Rates gradually decrease from 5.4% in 2022 to 3.8% in 2075 and later based on the Society of Actuaries Long-Run Medical Cost Trend Model.

## Actuarial Value of Assets

Equal to the Market Value of Assets

## Actuarial Cost Method - Entry Age Normal

Under the Entry Age Normal Cost Method, the Normal Cost is the present value of benefits allocated to the year following the valuation date. Benefits are allocated on a level basis over the earnings of an individual between the date of hire and the assumed retirement age. The Accrued Liability as of the valuation date is the excess of the present value of future benefits over the present value of future Normal Cost. The Unfunded Accrued Liability is the excess of the Accrued Liability over the Actuarial Value of Assets. Actuarial gains and losses serve to reduce or increase the Unfunded Accrued Liability.

## Participant Data

Based on census information as of October 2018. Due to the timing of school district turnover, the data is believed to be representative of the population for the 2018-2019 school year.

Big Spring School District Postemployment Benefits Plan
Actuarial Valuation
as of July 1, 2018
for Purposes of Other Postemployment Benefits Accounting
for Fiscal Year July 1, 2018 to
June 30, 2019

# Calculations for GASB No. 75 Reporting

## GASB No. 75 Summary Information

### Demographic Information

| | Total |
|---|---|
| Active Participants | 305 |
| Vested Former Participants | 0 |
| Retired Participants | 18 |
| **Total** | **323** |
| Annual Payroll of Active Participants | $17,785,580 |

### Financial Information

| | Total |
|---|---|
| Total OPEB Liability | $ 3,653,081 |
| Plan Fiduciary Net Position | 0 |
| Net OPEB Liability (Asset) | $ 3,653,081 |
| Deferred Outflows of Resources | $ 154,665 |
| Deferred Inflows of Resources | $ 901,454 |
| Plan Fiduciary Net Position as a % of Total OPEB Liability | 0.00% |
| Net OPEB Liability as a % of Covered-Employee Payroll | 20.54% |
| OPEB Expense | $ 325,712 |

Big Spring School District Postemployment Benefits Plan
Actuarial Valuation as of July 1, 2018 for Fiscal Year Ending June 30, 2019

## Changes in the Net OPEB Liability

| Total OPEB Liability | Total |
|---|---|
| **Fiscal Year Ending 6/30/2019** | |
| Balance at 7/1/2017 | $ 4,379,638 |
| Service Cost | 290,074 |
| Interest[2] | 143,670 |
| Changes of Benefit Terms | (42,532) |
| Differences between Expected and Actual Experience[1] | (568,920) |
| Changes of Assumptions[1] | (401,877) |
| Benefit Payments[2] | (146,972) |
| Other Changes | 0 |
| Net Changes | (726,557) |
| **Balance at 7/1/2018** | **$ 3,653,081** |

### Changes of Assumptions

The discount rate changed from 3.13% to 2.98%. The trend assumption was updated. The marriage assumption was lowered from 40% to 25%.

### Changes of Benefit Terms

One administrator is receiving a special benefit. Updated subsidized benefits to reflect district contributing $4,000 towards coverage.

[1]Each year's loss (or gain) is recognized over a closed period, using the average of the expected remaining service lives of all active and inactive employees that are currently receiving a benefit or may be eligible to receive a benefit in the future.
[2]These figures are based on estimated benefit payments. These amounts may be adjusted for actual benefit payments made during the year.

## Deferred Outflows/Inflows and Sensitivity

| Deferred Outflows of Resources | Total |
|---|---|
| Differences between Expected and Actual Experience | $ 0 |
| Changes of Assumptions | 38,425 |
| Benefit Payments subsequent to the Measurement Date (7/1/2018)[1] | 116,240 |
| **Total Deferred Outflows** | **$ 154,665** |

| Deferred Inflows of Resources | |
|---|---|
| Differences between Expected and Actual Experience | $ 528,283 |
| Changes of Assumptions | 373,171 |
| **Total Deferred Inflows** | **$ 901,454** |

### Sensitivity of Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the Plan, as well as what the Plan's net OPEB liability 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:

| Net OPEB Liability (Asset) | |
|---|---|
| 1% Increase (3.98%) | $ 3,353,386 |
| Current Discount Rate (2.98%) | $ 3,653,081 |
| 1% Decrease (1.98%) | $ 3,970,869 |

### Sensitivity of Net OPEB Liability to Changes in the Healthcare Cost Trend Rate

The following presents the net OPEB liability of the Plan, as well as what the Plan's net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

| Net OPEB Liability (Asset) | |
|---|---|
| 1% Increase | $ 4,153,385 |
| Current Rates | $ 3,653,081 |
| 1% Decrease | $ 3,237,128 |

[1]These figures are based on estimated benefit payments. These amounts may be adjusted for actual benefit payments made.

# OPEB Expense and Future Recognition of Deferred Outflows and (Inflows)

## OPEB Expense

| | Total |
|---|---|
| **Fiscal Year Ending 6/30/2019** | |
| Service Cost | $ 290,074 |
| Interest on Total OPEB Liability | 143,670 |
| Changes of Benefit Terms | (42,532) |
| Contributions - Employee | 0 |
| Amortization of Deferred Outflows | 3,843 |
| Amortization of Deferred Inflows | (69,343) |
| Other Changes | 0 |
| **Total OPEB Expense** | **$ 325,712** |

## Future Deferred Outflows and (Inflows) to be Recognized as OPEB Expense (Income)

| Fiscal Year Ending | |
|---|---|
| June 30, 2020 | $ (65,500) |
| June 30, 2021 | (65,500) |
| June 30, 2022 | (65,500) |
| June 30, 2023 | (65,500) |
| June 30, 2024 | (65,500) |
| Thereafter | (535,529) |

## Deferred Outflows and Inflows of Resources Bases

### Deferred Outflows of Resources

| Date | Initial Balance | Annual Recognition | Remaining Balance | Remaining Recognition Period | Type |
|---|---|---|---|---|---|
| July 1, 2017 | 46,111 | 3,843 | 38,425 | 10 years | Assumption Change |
| **Total** | | **3,843** | **38,425** | | |

### Deferred Inflows of Resources

| Date | Initial Balance | Annual Recognition | Remaining Balance | Remaining Recognition Period | Type |
|---|---|---|---|---|---|
| July 1, 2018 | 568,920 | 40,637 | 528,283 | 13 years | Experience Change |
| July 1, 2018 | 401,877 | 28,706 | 373,171 | 13 years | Assumption Change |
| **Total** | | **69,343** | **901,454** | | |

## Required Supplementary Information

| Fiscal Year Ending[1] | 2019 | 2018 |
|---|---|---|
| **Total OPEB Liability** | | |
| Service Cost | $ 290,074 | $ 292,483 |
| Interest | 143,670 | 106,568 |
| Changes of Benefit Terms | (42,532) | 0 |
| Differences between Expected and Actual Experience | (568,920) | 0 |
| Changes of Assumptions | (401,877) | 46,111 |
| Benefit Payments | (146,972) | (115,421) |
| Other Changes | 0 | 0 |
| Net Change | (726,557) | 329,741 |
| Total OPEB Liability - Beginning | 4,379,638 | 4,049,897 |
| **Total OPEB Liability - Ending** | **$ 3,653,081** | **$ 4,379,638** |
| Covered-Employee Payroll | $ 17,785,580 | $ 15,054,068 |
| Total OPEB Liability as a % of Covered-Employee Payroll | 20.54% | 29.09% |

[1]This information is shown for the last 10 years, if available.