

Bay County Retiree Health Care Plan

Actuarial Valuation Report

for Bay-Arenac Behavioral Health Authority

as of December 31, 2018



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January 24, 2020

Bay County Voluntary Employees' Beneficiary
Association (VEBA) – Board of Trustees
Bay City, Michigan

Re: Bay-Arenac Behavioral Health Authority Actuarial Funding Valuation as of December 31, 2018

Dear Board Members:

The results of the December 31, 2018 Annual Actuarial Funding Valuation of the Bay-Arenac Behavioral Health Authority (BABH) via the Bay County Voluntary Employees' Beneficiary Association are presented in this report.

This report was prepared at the request of the Board and is intended for use by the VEBA, Bay County, BABH, and those designated or approved by the Board. This report may be provided to parties other than the VEBA only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the System's funding progress and to determine the Actuarially Determined Contribution for the calendar years ending December 31, 2020 and December 31, 2021. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different. This report does not satisfy GASB Statement No. 75.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The findings in this report are based on data and other information through December 31, 2018. The valuation was based upon information furnished by Bay County and BABH, concerning retiree health benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency with the last valuation, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by Bay County and BABH.

This report was prepared using assumptions adopted by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. Additional information about the actuarial assumptions is included in the section of this report entitled Actuarial Cost Methods and Actuarial Assumptions.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Bay County Retiree Health Care Plan - BABH as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

James D. Anderson and Shana M. Neeson are Members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



James D. Anderson, FSA, EA, FCA, MAAA

James D. Anderson, FSA, EA, FCA, MAAA



Shana M. Neeson, ASA, FCA, MAAA

JDA/SMN:dj



EXECUTIVE SUMMARY

Executive Summary

Actuarially Determined Employer Contribution

Please note that beginning with the fiscal year starting after June 15, 2016, GASB Statement No. 43 was replaced by GASB Statement No. 74. Also, beginning with the fiscal year starting after June 15, 2017, GASB Statement No. 45 was replaced by GASB Statement No. 75. It is our understanding that the BABH is only required to comply with GASB Statement No. 75, and as such requires a separate GASB Statement No. 75 report at the completion of each calendar year. As such, there is no longer an “Annual Required Contribution” calculated in the funding valuation report. Therefore, we have determined the “Actuarially Determined Contribution” for subsequent years.

We have calculated the Actuarially Determined Contribution for the calendar years ending December 31, 2020 and December 31, 2021 under an interest rate assumption of 7.00%. Below is a summary of the results. The Actuarially Determined Contributions and estimated premiums shown below include the impact of any implicit rate subsidy present in your pre-65 rates.

For additional details please see the Section titled “Valuation Results.”

| Calendar Year Ending | Actuarially Determined Contribution | Estimated Premiums Paid for Retirees |
|-----------------------------|--|---|
| December 31, 2020 | \$ 0 | \$ 569,877 |
| December 31, 2021 | 0 | 571,799 |

Liabilities and Assets – as of December 31, 2018

| | |
|---|--------------|
| 1. Present Value of Future Benefit Payments | \$11,594,789 |
| 2. Actuarial Accrued Liability | 9,580,256 |
| 3. Plan Assets | 16,701,533 |
| 4. Unfunded Actuarial Accrued Liability (2) – (3) | (7,121,277) |
| 5. Funded Ratio (3)/(2) | 174.3% |

The Present Value of Future Benefit Payments (PVFB) is the present value of all benefits projected to be paid from the plan for past and future service to current members. The Actuarial Accrued Liability is the portion of the PVFB allocated to past service by the Plan’s funding method (see the Section titled “Actuarial Cost Methods and Actuarial Assumptions”).



SECTION A

VALUATION RESULTS

Bay County Retiree Health Care Plan - BABH - Results as of December 31, 2018

| | |
|--|------------------|
| A. Present Value of Future Benefits | |
| i) Retirees and Beneficiaries | \$ 6,065,181 |
| ii) Vested Terminated Members | 0 |
| iii) Active Members | <u>5,529,608</u> |
| Total Present Value of Future Benefits | \$11,594,789 |
| B. Present Value of Future Normal Costs | 2,014,533 |
| C. Actuarial Accrued Liability (A.-B.) | 9,580,256 |
| D. Actuarial Value of Assets | 16,701,533 |
| E. Unfunded Actuarial Accrued Liability (C.-D.) | \$(7,121,277) |
| F. Funded Ratio (D./C.) | 174.3% |
| G. Calendar Year Ending December 31, 2020 | |
| i) Employer Normal Cost | \$ 248,508 |
| ii) Amortization of UAAL* | <u>(582,856)</u> |
| Actuarially Determined Contribution | \$ 0 |
| H. Calendar Year Ending December 31, 2021 | |
| Actuarially Determined Contribution | \$ 0 |

* The Unfunded Actuarial Accrued Liabilities (UAAL) were amortized as a level percent of active member payroll over a closed 18-year period for the calendar year ending December 31, 2020 and decreasing by one each year thereafter.

The long-term rate of investment return used in this valuation is 7.00%.

Comments

Comment A: Overall Plan experience was less favorable than expected. Factors contributing to the unfavorable experience include, but are not limited to:

- Unfavorable investment performance; and
- A benefit change allowing Behavioral Health AFSCME (Division No. 23) members to qualify for retiree health care effective January 1, 2020.

Partially offsetting these factors was favorable experience due to:

- An assumption change: adjustment to the retiree benefit election assumption in order to better reflect actual Plan experience.

The combined impact of the change in benefit and change in assumption noted above decreased the liabilities by approximately \$29,000.

Comment B: One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on the assets that will be used to pay Plan benefits. Higher assumed investment returns will result in a lower Actuarially Determined Contribution. Lower returns will tend to increase the Actuarially Determined Contribution. As requested by the plan sponsor, we have calculated the liability and the resulting Actuarially Determined Contribution using an assumed annual rate of investment return of 7.00%.

Comment C: The plan sponsor is required by GASB to perform actuarial valuations at least biennially or more frequent if significant changes in the OPEB are made in the interim.

Comment D: The contribution amounts shown include amortization of the unfunded actuarial accrued liability over a closed 18-year period for the calendar year ending December 31, 2020 and decreasing by one each year thereafter. For this valuation, assets represent 174.3% of accrued liabilities; for the last valuation, the ratio was 191.8%. Given the funded status of the Plan, BABH should consider starting to pay benefits from the trust.

Comment E: The asset split between the various groups was provided by the County.

Comment F: This valuation covers the retiree health benefits provided by the Bay-Arenac Behavioral Health Authority (BABH) via the Bay County Voluntary Employees' Beneficiary Association.

Comment G: On December 20, 2019, the "Further Consolidated Appropriations Act of 2020," H.R. 1865, was signed into law. The Act repeals the "Cadillac tax" which was a tax provision from the Affordable Care Act (ACA). As a result, any liability/provision analysis included as part of the prior funding valuation is no longer required. In addition, no further adjustments associated with the "Cadillac tax" are required. For purposes of the December 31, 2018 Retiree Health Care Plan funding valuation, the repeal of the "Cadillac tax" does not have an impact on plan liabilities because no load was applied as part of the December 31, 2017 funding valuation.



Comments

Comment H: The GASB issued Statement Nos. 74 and 75 for OPEB valuations. GASB Statement No. 74 for the plan OPEB disclosures is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 75 for employer OPEB disclosures is effective for employer fiscal years beginning after June 15, 2017. The GASB implementation guides for Statement Nos. 74 and 75 provide additional clarification related to the implementation of these Statements. It is our understanding that the Bay-Arenac Behavioral Health Authority and the County will need to comply with GASB Statement No. 75 for each measurement date ending December 31. The basis for the September 30, 2020 GASB Statement No. 75 reporting information is expected to be this valuation (as of December 31, 2018), where roll-forward techniques will be applied.

Comment I: The Michigan State Treasurer has established uniform actuarial assumptions as required by Public Act 202 (PA 202) of 2017 for use with the annual Form 5572 (Retirement System Annual Report). The use of the uniform assumptions for reporting purposes is required for the fiscal years ending September 30, 2019 and September 30, 2020. GRS plans to provide the necessary PA 202 uniform assumption information as part of the GASB Statement No. 75 reports.

Comment J: Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the market value of assets. Unless otherwise indicated, with regards to any funded status measurements presented in this report:

- The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and
- The measurement is inappropriate for assessing the need for or the amount of future employer contributions.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

Initial premium rates were developed for the two classes of retirees (pre-65 and post-65). The January 1, 2018 fully-insured rates provided by Bay County BABH were utilized to determine the appropriate premium rates. The pre-65 fully-insured premiums are blended rates based on the combined experience of active and pre-65 retired members; therefore, there is an implicit employer subsidy for the non-Medicare eligible retirees since the average cost of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees. The true per capita cost for the pre-65 retirees is developed by adjusting the demographic differences between the active employees and retirees to reflect this implicit rate subsidy for the retirees. For the post-65 retirees, the fully-insured premium rates were used as the basis of the initial per capita cost without adjustments since the rate reflects the demographics of the post-65 retiree group.

Age graded and sex distinct premiums are utilized in this valuation. The premiums developed by the preceding processes are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium for each specific age/sex combination. The age/sex specific premiums more accurately reflect the health care utilization and cost at that age.

Current and Future Retirees

| Expected Health Care Cost by Age for Medical and Prescription Drugs | | |
|---|-----------|-----------|
| Age | Male | Female |
| 45 | \$ 390.38 | \$ 538.77 |
| 50 | 508.31 | 626.19 |
| 55 | 668.88 | 730.32 |
| 60 | 863.90 | 850.64 |
| 64 | 1,050.53 | 991.41 |
| 65 | 315.31 | 297.40 |
| 70 | 343.49 | 332.38 |
| 75 | 368.91 | 359.98 |

The premiums shown above are consistent with those developed for the December 31, 2017 valuation but trended forward with a conservative trend assumption of 9.00% to determine the December 31, 2018 rates.

Retiree Premium Rate Development

The dental and vision premium rates were not “age graded” for this valuation because dental and vision claims do not vary significantly by age. The monthly dental and vision premium rates used in this valuation are shown below:

| Group | Dental and Vision | | | |
|-------------|-------------------|------------|------------|------------|
| | Pre-65 | | Post-65 | |
| | One-Person | Two-Person | One-Person | Two-Person |
| BABH | \$23.79 | \$46.54 | \$23.79 | \$46.54 |

The premiums shown above are consistent with those developed for the December 31, 2017 valuation but trended forward with a conservative dental/vision trend assumption of 3.50% to determine the December 31, 2018 rates.

James E. Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown above.



James E. Pranschke, FSA, FCA, MAAA

SECTION C

SUMMARY OF BENEFITS

Bay County Retiree Health Care Plan - BABH

Summary of the Benefit Provisions as of December 31, 2018

| Leaving Employment as a Result of | Eligibility for Pension Benefit | Eligibility for Retiree Health Benefit | When do retiree health benefits commence? | Coverage Provided by Employer | | Retiree Health Care Provider(s) | Type of Insurance | Retiree Share of Cost for | | |
|------------------------------------|---|---|---|---|---|---------------------------------|--|--|--|--|
| | | | | Retiree | Spouse | | | Retiree | Spouse (while Retiree is alive) | Spouse (after Retiree's death) |
| Normal/Early Retirement | Age 55 with 8/10 [~] yrs of svc ** Age 55 with 8/10 ^{&} yrs of svc ** Age 55 with 30 yrs of svc Age 60 with 8/62 with 10 [~] yrs of svc Age 60 with 8/62 with 10 ^{&} yrs of svc | Age 55 with 30 yrs of svc Age 60 with 8 yrs of svc Age 62 with 10 yrs of svc | Immediately | Medical Prescription Dental Vision | Medical Prescription Dental Vision | BC/BS Hartford | fully-insured fully-insured fully-insured fully-insured | See Schedule D See Schedule D Zero cost for Retiree with at least 20 yrs svc. Zero cost for Retiree with at least 20 yrs svc. | See Schedule D See Schedule D See Schedule D See Schedule D | See Schedule D See Schedule D See Schedule D See Schedule D |
| Deferred Vested Termination | 8 yrs of svc 10 yrs of svc [~] 10 yrs of svc ^{&} | None | | | | N/A N/A N/A N/A | | N/A N/A N/A N/A | N/A N/A N/A N/A | N/A N/A N/A N/A |
| Non-Duty Disability | 10 or more years of credited svc | 10 or more years of credited svc | Immediately | Medical Prescription Dental Vision | Medical Prescription Dental Vision | BC/BS Hartford | fully-insured fully-insured fully-insured fully-insured | See Schedule D See Schedule D | See Schedule D See Schedule D | See Schedule D See Schedule D |
| Duty Disability | No age or svc requirement | No age or svc requirement | Immediately | Medical Prescription Dental Vision | Medical Prescription Dental Vision | BC/BS Hartford | fully-insured fully-insured fully-insured fully-insured | See Schedule D See Schedule D | See Schedule D See Schedule D | See Schedule D See Schedule D |
| Non-Duty Death-in-Svc | 10 or more years of credited svc | 10 or more years of credited svc | Immediately -Surviving Spouse | | Medical Prescription Dental Vision | BC/BS Hartford | fully-insured fully-insured fully-insured fully-insured | | | See Schedule D See Schedule D |
| Duty Death-in-Svc | No age or svc requirement Benefits begin upon termination of Worker's Compensation | No age or svc requirement Benefits begin upon termination of Worker's Compensation | Immediately -Surviving Spouse | | Medical Prescription Dental Vision | BC/BS Hartford | fully-insured fully-insured fully-insured fully-insured | | | See Schedule D See Schedule D |

Medicare Reimbursement is not offered to any members.
[~] Behavioral Health AFSCME (Div No. 23): 10 yrs of svc (age 62 with 10 yrs of svc) for members hired on or after 10/1/2014.
[&] Behavioral Health General (Div No. 24): 10 yrs of svc (age 62 with 10 yrs of svc) for members hired after 1/1/2015.
^{**} Eligible for retirement with a reduced pension.

BABH part-time members do not qualify for retiree health care. They do not have access to the plan.

Effective 1/1/2020 employees formerly covered under the union (AFSCME) CBA will begin to accrue service credit towards the VEBA.



Bay County Retiree Health Care Plan - BABH

Summary of the Benefit Provisions as of December 31, 2018

Schedule D Bay-Arenac Behavioral Health Retiree Health Insurance Premium Contribution for those who retire on or after January 16, 2004

Retiree Health Insurance Coverage - % paid by the employer based on years of service at retirement
(subject to eligibility)

| Years of Service | Employer Paid (%) | Retiree Paid (%) | Employer Paid Spousal Coverage | Retiree Paid Spousal Coverage |
|------------------|-------------------|------------------|--------------------------------|-------------------------------|
| 8 | 40% | 60% | 0% | 100% |
| 9 | 45% | 55% | 0% | 100% |
| 10 | 50% | 50% | 0% | 100% |
| 11 | 55% | 45% | 0% | 100% |
| 12 | 60% | 40% | 0% | 100% |
| 13 | 65% | 35% | 0% | 100% |
| 14 | 70% | 30% | 0% | 100% |
| 15 | 75% | 25% | 0% | 100% |
| 16 | 80% | 20% | 0% | 100% |
| 17 | 85% | 15% | 0% | 100% |
| 18 | 90% | 10% | 0% | 100% |
| 19 | 95% | 5% | 0% | 100% |
| 20 | 100% | 0% | 0% | 100% |
| 21 | 100% | 0% | 5% | 95% |
| 22 | 100% | 0% | 10% | 90% |
| 23 | 100% | 0% | 15% | 85% |
| 24 | 100% | 0% | 20% | 80% |
| 25 | 100% | 0% | 25% | 75% |
| 26 | 100% | 0% | 30% | 70% |
| 27 | 100% | 0% | 35% | 65% |
| 28 | 100% | 0% | 40% | 60% |
| 29 | 100% | 0% | 45% | 55% |
| 30 | 100% | 0% | 50% | 50% |
| 31 | 100% | 0% | 55% | 45% |
| 32 | 100% | 0% | 60% | 40% |
| 33 | 100% | 0% | 65% | 35% |
| 34 | 100% | 0% | 70% | 30% |
| 35 | 100% | 0% | 75% | 25% |
| 36 | 100% | 0% | 80% | 20% |
| 37 | 100% | 0% | 85% | 15% |
| 38 | 100% | 0% | 90% | 10% |
| 39 | 100% | 0% | 95% | 5% |
| 40 | 100% | 0% | 100% | 0% |



SECTION D

SUMMARY OF PARTICIPANT DATA

Bay County Retiree Health Care Plan - BABH
Total Eligible Active Members as of December 31, 2018
by Age and Years of Service*

| Age | Years of Service to Valuation Date | | | | | | | Totals |
|---------------|------------------------------------|-----------|-----------|-----------|-----------|----------|----------|------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 Plus | No. |
| 20-24 | 10 | | | | | | | 10 |
| 25-29 | 13 | 2 | | | | | | 15 |
| 30-34 | 27 | 6 | | | | | | 33 |
| 35-39 | 12 | 12 | 4 | 1 | | | | 29 |
| 40-44 | 10 | 6 | 5 | 6 | 1 | | | 28 |
| 45-49 | 11 | 16 | 4 | 8 | 3 | | | 42 |
| 50-54 | 5 | 3 | 2 | 6 | 3 | 4 | 1 | 24 |
| 55-59 | 3 | 10 | 3 | 7 | 2 | 1 | 3 | 29 |
| 60-64 | 2 | 3 | 4 | | 1 | 2 | | 12 |
| 65 & Over | | 1 | 2 | 1 | | | | 4 |
| Totals | 93 | 59 | 24 | 29 | 10 | 7 | 4 | 226 |

* Excludes 4 part-time employees. Members who belong to Behavioral Health AFSCME (Division 23) do not begin to accrue benefit service until 1/1/2020.

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 43.5 years
Eligibility Service: 8.8 years
Benefit Service: 8.0 years



Bay County Retiree Health Care Plan - BABH Inactive Members as of December 31, 2018

Number of Retiree and Beneficiary Contracts[^]

| | Opt-Out/ Ineligible | One-Person Coverage | Two-Person Coverage* | Total |
|--------------|------------------------|------------------------|-------------------------|------------|
| Male | 19 | 18 | 4 | 41 |
| Female | 41 | 45 | 6 | 92 |
| Total | 60 | 63 | 10 | 133 |

* Includes family coverage.

[^] Coverage based on medical/prescription drug coverage.

| Age | Current Retirees |
|---------------|--------------------------------|
| | Number of Those Covered |
| | BABH |
| 0-44 | |
| 45-49 | |
| 50-54 | 1 |
| 55-59 | 14 |
| 60-64 | 25 |
| 65-69 | 16 |
| 70-74 | 9 |
| 75-79 | 4 |
| 80-84 | 2 |
| 85-89 | 1 |
| 90-94 | |
| 95 + | 1 |
| Totals | 73 |

There are no terminated members eligible for deferred Plan benefits.

Bay County Retiree Health Care Plan - BABH

Reported Financial Information

(Market Value)

| | <u>December 31, 2018</u> |
|---|--------------------------|
| Additions | |
| Contributions | |
| Employer | \$ 0 |
| Nonemployer contributing entities | 0 |
| Active Employees | 0 |
| Member | 0 |
| Total Contributions | <u>\$ 0</u> |
| Investment Income | |
| Total Investment Income | \$ (789,578) |
| Less Investment Expense | <u>(46,033)</u> |
| Net Investment Income | <u>\$ (835,611)</u> |
| Other Miscellaneous income | <u>\$ 0</u> |
| Total Additions | <u>\$ (835,611)</u> |
| Deductions | |
| Health Benefit Payments and Refunds | \$ 0 |
| OPEB Plan Administrative Expense | <u>6,563</u> |
| Total Deductions | <u>\$ 6,563</u> |
| Net Increase in Net Position | \$ (842,174) |
| Net Position Restricted for OPEB | |
| Beginning of Year | \$ 17,542,745 |
| Audit Adjustment | <u>962</u> |
| End of Year | <u>\$ 16,701,533</u> |



SECTION E

ACTUARIAL COST METHODS AND ACTUARIAL ASSUMPTIONS

Actuarial Methods for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

Actuarial Cost Method. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities (UAAL) (full funding credit if assets exceed liabilities) were amortized as a level percent of payroll. The UAAL was determined using the actuarial value of assets and actuarial accrued liability calculated as of the valuation date and projected to the beginning of the calendar year at the assumed rate of investment return.

Actuarial Value of Assets. The Actuarial Value of Assets is set equal to the reported market value of assets. The County reported the asset split between the various groups.

Amortization Factors. The following amortization factors were used in developing the Actuarially Determined Contribution for the calendar years shown:

| | Calendar Year Ending December 31, | |
|-----------------------------|--------------------------------------|---------|
| | 2020 | 2021 |
| BABH (Level Percent of Pay) | 13.0732 | 12.5459 |

Actuarial Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

The rationale for all assumptions, except the investment return which was investigated separately and changed by the Board in fall 2018, used in this valuation is included in the five-year experience study ending December 31, 2015, issued August 1, 2017. All assumptions are expectations of future experience, not market measures.

Investment Return (net of investment expenses): 7.00% a year, compounded annually.

Rates of price inflation are not specifically used for this valuation. However, a rate of price inflation of 2.50% would be consistent with other assumptions in this report. This assumption was first adopted for the December 31, 2016 pension actuarial valuation.

Pay Projections. These assumptions are used to project current pays to those upon which future contributions will be based. In addition to the Merit and Longevity rates shown in the table, members are also assumed to receive a base increase of 3.25%.

| Years of Service | Annual Rate of Pay Increase for Merit & Longevity BABH |
|---------------------|---|
| 1 | 3.00 % |
| 2 | 2.25 |
| 3 | 1.50 |
| 4 | 1.50 |
| 5 | 0.75 |
| 6+ | 0.75 |

The payroll growth assumptions were first adopted for the December 31, 2016 pension actuarial valuation.

Actuarial Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

Mortality. The mortality rates utilized are based upon the RP-2014 tables, as extended, and include a margin for future mortality improvements projected using a fully generational improvement scale. The mortality assumptions were first adopted for the December 31, 2016 pension actuarial valuation. The tables used were as follows:

- **Healthy Pre-Retirement:** The RP-2014 Employee Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2016.
- **Healthy Post-Retirement:** The RP-2014 Healthy Annuitant Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2016.
- **Disability Retirement:** The RP-2014 Disabled Mortality Table, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2016.

| Sample Ages | Healthy Pre-Retirement Future Life Expectancy (Years)^ | | Healthy Post-Retirement Future Life Expectancy (Years)^ | | Disabled Retirement Future Life Expectancy (Years)^ | |
|----------------|--|-------|---|-------|---|-------|
| | Men | Women | Men | Women | Men | Women |
| | 50 | 34.95 | 40.23 | 33.47 | 36.50 | 24.61 |
| 55 | 29.91 | 35.12 | 28.69 | 31.57 | 21.45 | 25.22 |
| 60 | 25.07 | 30.13 | 24.14 | 26.85 | 18.40 | 21.65 |
| 65 | 20.58 | 25.26 | 19.86 | 22.35 | 15.51 | 18.20 |
| 70 | 16.48 | 20.54 | 15.91 | 18.07 | 12.74 | 14.81 |
| 75 | 12.73 | 16.01 | 12.30 | 14.10 | 10.10 | 11.64 |
| 80 | 9.36 | 11.76 | 9.12 | 10.58 | 7.70 | 8.89 |

[^] Based on retirements in 2018. Retirements in future years will reflect improvements in life expectancy.

Actuarial Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

| Retirement Ages | Percent of Active Members Retiring within Next Year BABH |
|--------------------|---|
| 55 | 15 % |
| 56 | 10 |
| 57 | 10 |
| 58 | 10 |
| 59 | 10 |
| 60 | 25 |
| 61 | 20 |
| 62 | 10 |
| 63 | 10 |
| 64 | 10 |
| 65 | 25 |
| 66 | 10 |
| 67 | 10 |
| 68 | 10 |
| 69 | 10 |
| 70 | 100 |

The following table shows the rates of retirement for the 55 & 8 and/or 55 & 10 Early Retirement provision:

| Retirement Ages | 55 & 8 and/or 55 & 10 Early Retirement BABH |
|--------------------|--|
| 55 | 5 % |
| 56 | 5 |
| 57 | 5 |
| 58 | 5 |
| 59 | 5 |
| 60 | 5 |
| 61 | 5 |

The retirement assumptions were first adopted for the December 31, 2012 pension actuarial valuation.



Actuarial Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

Rates of Disability. These rates represent the probabilities of active members becoming disabled. This assumption was first adopted for the December 31, 2016 pension actuarial valuation.

| Percent Becoming Disabled | |
|---------------------------|--------|
| Sample Ages | BABH |
| 20 | 0.07 % |
| 25 | 0.07 |
| 30 | 0.07 |
| 35 | 0.07 |
| 40 | 0.19 |
| 45 | 0.25 |
| 50 | 0.46 |
| 55 | 0.84 |
| 60 | 1.33 |

We assumed that 85% of disabilities are non-duty related and 15% are duty related.

Rates of Separation from Active Membership. These rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment. This assumption was first adopted for the December 31, 2016 pension actuarial valuation.

| Sample Ages | Years of Service | % of Active Members Separating within Next Year |
|----------------|---------------------|--|
| | | BABH |
| ALL | 0 | 16.50% |
| | 1 | 9.90% |
| | 2 | 9.90% |
| | 3 | 8.80% |
| | 4 | 8.80% |
| 20 | 5 & Over | 8.25 |
| 25 | | 8.25 |
| 30 | | 7.70 |
| 35 | | 7.70 |
| 40 | | 4.40 |
| 45 | | 3.30 |
| 50 | | 2.20 |
| 55 | | 2.20 |
| 60 | | 2.20 |



Actuarial Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

Health care cost trend rates are displayed in the following table:

| Year After Valuation | Medical and Drug Valuation Trend Rate |
|-------------------------|--|
| | BABH |
| 1 | 8.25% |
| 2 | 7.50% |
| 3 | 6.75% |
| 4 | 6.25% |
| 5 | 5.75% |
| 6 | 5.25% |
| 7 | 4.75% |
| 8 | 4.25% |
| 9 | 3.50% |
| 10 | 3.50% |
| 11 | 3.50% |
| 12+ | 3.50% |

Dental and vision trends are 3.50% for all years after the valuation.

Miscellaneous and Technical Assumptions for Bay County Retiree Health Care Plan - BABH as of December 31, 2018

- Administrative Expenses** No explicit assumption has been made for administrative expenses.
- Decrement Operation** Disability and death-in-service decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
- Decrement Timing** Decrements of all types are assumed to occur mid-year.
- Eligibility Testing** Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- Incidence of Contributions** Contributions are assumed to be received continuously throughout the year based upon the contributions shown in this report.
- Marriage Assumption** 100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
- Medicare Coverage** Assumed to be available for all covered employees on attainment of age 65. Disabled retirees were assumed to be eligible for Medicare coverage at age 65.
- Part-Time Employees** Part-time employees are not eligible for retiree health care benefits even if they are eligible for benefits from the Retirement System. Part-time employees were excluded from the valuation.
- Health Care Coverage at Retirement** The table below shows the assumed portion of future retirees electing one-person or two-person/family coverage, or opting out of coverage entirely. For those that elect two-person coverage, the assumption regarding the percentage of retirees that would continue coverage to the spouse upon death of the retiree is also shown.

| | One-Person | Two-Person/Family | | Opt-Out |
|---------------|------------|-------------------|------------|---------|
| | | Electing | Continuing | |
| Male | 25% | 50% | 80% | 25% |
| Female | 55% | 20% | 80% | 25% |

APPENDIX

Glossary

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarially Determined Contribution. The Actuarially Determined Contribution is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The Actuarially Determined Contribution is an amount that is actuarially determined so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded actuarial accrued liability.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Governmental Accounting Standards Board (GASB). GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Implicit Rate Subsidy. It is common practice for employers to allow retirees to continue in the employer's group health insurance plan (which also covers active employees), often charging the retiree some portion of the premium charged for active employees. Under the theory that retirees have higher utilization of services, the difference between the true cost of providing retiree coverage and what the retiree is being charged is known as the implicit rate subsidy.



Glossary

Medical Trend Rate (Health Care Inflation). The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Other Postemployment Benefits (OPEB). OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance, dental, vision, prescription drugs, life insurance or other health care benefits.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded actuarial accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.