Segal

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Via Email CRupe@leg.state.vt.us

Mr. Chris Rupe
Fiscal Analyst
Joint Fiscal Office

Re: Request 5 – Supplement to Actuarial Modeling of Universes 1 and 2 for VSERS – Updated

Dear Chris:

As a follow up to our letter dated December 30, 2021, we are providing supplemental information regarding the additional total contribution rate, solely for members in each Universe, as a percentage of future salary, that would be needed to "…make it revenue neutral to the employer's pension costs and without increasing member contributions of other employee groups." The exhibits contained in this letter should be treated as a supplement to the December 30th communication.

As requested by the Pension Task Force, we have calculated the impact of allowing certain Vermont State Employees' Retirement System (VSERS) Group F active members, as outlined in "Universes 1 and 2" (described in detail below), to enroll in a benefit with the same provisions as VSERS Group C. Using these Universes, we also applied the VSERS Group C scenarios that were modeled in previous Pension Task Force Request 4 to calculate the impact of potential changes to plan provisions affecting the members in each Universe, respectively.

The plan changes include extending benefits similar to Group C to the cohorts of Group F active members in Universes 1 and 2 and various changes to the maximum benefits payable. The results of the June 30, 2020, actuarial valuation, projected forward on an open group basis, are used as a baseline.

We estimated the additional contribution rate, solely for members in each Universe, as a percentage of future salary, that would be needed to fully offset the increased actuarial cost.

For the plan changes, we have calculated the impact that these changes would have on current active members (as defined in Universe 1 and Universe 2) as of the June 30, 2020, valuation date, as well as all expected new hires reflective of each Universe, respectively.

The results of this analysis are shown in the pages following this letter.

VSERS Group C Scenarios

Universes of Members – The following Universes of active members were prepared:

Universe	Description of Members Included
Uni-1	All Department of Corrections (only) active members in Group F who are currently covered by the provision allowing unreduced retirement at age 55 with 20 years of service.
Uni-2	All Department of Corrections active members plus other active members mentioned in 3 V.S.A. § 459(c)(2)(A) in Group F who are currently covered by the provision allowing unreduced retirement at age 55 with 20 years of service. This includes "*Group F members who have 20 years of service as facility employees of the Department of Corrections, as Department of Corrections employees who provide direct security and treatment services to offenders under supervision in the community, or as Woodside facility employees, or as Vermont State Hospital employees, or as employees of its successor in interest, who provide direct patient care*".

Universe data and assumptions:

- **Identification of members in each universe**
  - The "Retirement DOC DHM employees early retirement" data file provided by the Vermont Office of the State Treasurer on October 28, 2021 was used to identify all members to include in each Universe, respectively.
  - This file identified 720 members in Uni-1 and an additional 130 members to include in Uni-2 (for a total of 850 in Uni-2). Reconciling these members to the census data as of June 30, 2020, resulted in counts of 640 members in Uni-1 and an additional 113 members to include in Uni-2 (for a total of 753 in Uni-2).
  - Valuation results used in our analysis were adjusted to reflect the current level of members in Uni-1 and Uni-2; 720 and 850, respectively.
- Additional assumptions
  - All current Group F members in Universes 1 and 2 would switch from Group F to Group C benefit provisions.
  - Members identified in Universes 1 and 2 are valued using Group F actuarial assumptions related to decrement from active status and post-retirement mortality, with the exception of the retirement assumption. For retirement from active status, the Group C assumption of retiring at first eligibility was used. For comparison purposes, alternatives where Universe 1 and Universe 2 members retire no earlier than age 55 and age 57 were also valued.
  - All new entrants replacing members of Universes 1 and 2 that decrement in the projection model would be valued with Group C benefit provisions going forward.

Plan Change Scenarios – Based on each Universe, respectively, the following plan change scenarios were prepared:

Plan Change Scenario	Description of Plan Changes
Uni-1 + PC-1[1]	Increase the Max Benefit Cap by **1% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-1 + PC-2	Increase the Max Benefit Cap by **2% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-2 + PC-1	Increase the Max Benefit Cap by **1% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-2 + PC-2	Increase the Max Benefit Cap by **2% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.

Plan Change Scenario assumptions:

- PC-1 and PC-2
  - After increasing the mandatory retirement age to 57, the retirement rate assumptions were updated as follows: 50% at age 50, 10% at each age from age 51 through age 53, 5% at each age from age 54 through age 56, and 100% at age 57.

[1] Scenario labels from this analysis (PC-1 and PC-2) refer to like scenarios analyzed in the "Actuarial Modeling of Individual Scenarios" letter dated November 16, 2021.

Methodology

This request would provide existing Group F members within Universes 1 and 2 an opportunity to switch to Group C. For purposes of this analysis, we have assumed that all eligible Group F members would switch. This assumption represents the maximum possible value of this plan change. To the extent that fewer existing active members make this election, the associated impact on VSERS would be less.

This plan change where existing active Group F members would switch to Group C benefit provisions would increase the actuarially accrued liability. With no offsetting increase in assets, the funded ratio would deteriorate accordingly. To approximate the value of a funding source to "…make it revenue neutral to the employer's pension costs and without increasing member contributions of other employee groups…", we have calculated the present value of contributions on behalf of affected members (i.e., Group F members in Universes 1 and 2 that switch to Group C provisions) equal to the increase in the present value of benefits.

To calculate this additional contribution rate (solely for members in each Universe, as a percentage of future salary), we discounted the future salary using the current investment return assumption of 7.00% and divided the increase in the present value of benefits, reflective of the plan change, by this present value of future salary. The resulting percentage represents a total increase in contribution rate on payroll for members in Universe 1 and Universe 2, respectively, without distinction between employee and employer rate. Because all revenue scenarios had a relatively minor impact on liabilities, if any, we did not include this calculation for those scenarios.

Disclosure

This analysis was prepared in accordance with generally accepted actuarial principles and practices at the request of the Pension Task Force. Please refer to our June 30, 2020, Actuarial Valuation and Review reports for VSERS for the data, assumptions, and plan of benefits underlying these calculations.

The measurements shown in these actuarial calculations may not be applicable for other purposes. 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 or applicable law.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this report is complete and accurate. In my opinion, each assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and the assumptions, in combination, offer my best estimate of anticipated experience under the plan.

Please let me know if you have any questions or need any additional information.

Sincerely,

Matthew A. Strom

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

cc: Kathleen Riley, Segal

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Results

VSERS Group C – Scenario Descriptions

Universe	Description of Members Included
Uni-1	All Department of Corrections (only) active members in Group F who are currently covered by the provision allowing unreduced retirement at age 55 with 20 years of service.
Uni-2	All Department of Corrections active members plus other active members mentioned in 3 V.S.A. § 459(c)(2)(A) in Group F who are currently covered by the provision allowing unreduced retirement at age 55 with 20 years of service. This includes "*Group F members who have 20 years of service as facility employees of the Department of Corrections, as Department of Corrections employees who provide direct security and treatment services to offenders under supervision in the community, or as Woodside facility employees, or as Vermont State Hospital employees, or as employees of its successor in interest, who provide direct patient care*".

Plan Change Scenario	Description of Plan Changes
Uni-1 + PC-1	Increase the Max Benefit Cap by **1% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-1 + PC-2	Increase the Max Benefit Cap by **2% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-2 + PC-1	Increase the Max Benefit Cap by **1% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.
Uni-2 + PC-2	Increase the Max Benefit Cap by **2% of AFC** for each year worked beyond reaching the later of age 50 or 20 years of benefit service, applied prospectively to service actually worked after July 1, 2022. Increase mandatory retirement age to 57.

VSERS – Universe 1 – Plan Change Scenarios PC-1 and PC-2

2020 Valuation ($ in millions)	Baseline	Uni-1	Uni-1 + PC-1	Uni-1 + PC-2
Present Value of Benefits (PVB):	$3,714.2	$3,831.9	$3,821.9	$3,830.2
Change from Baseline Valuation:		$117.7	$107.7	$116.0
Present Value of Future Salary for Uni-1 members:	N/A	$323.0	$396.1	$396.1
Additional Contribution Rate (% of Future Salary) for Uni-1 members needed to offset the increase in PVB:	N/A	36.44%	27.20%	29.29%

The “Change from Baseline Valuation” values shown above in column Uni-1 are based on the current Group C retirement assumption that members retire at the age they are first eligible. For comparison/sensitivity purposes, we have also modeled based on the assumption that Uni-1 members retire at age 55 and at age 57. Assuming Uni-1 members retire at age 55, the change in Present Value of Benefits (PVB) is $106.3 million and the additional contribution rate (% of future salary) for Uni-1 members needed to offset the increase in PVB is 28.97%. Assuming Uni-1 members retire at age 57, the change in PVB is $99.5 million and the additional contribution rate (% of future salary) for Uni-1 members needed to offset the increase in PVB is 25.11%.

VSERS – Universe 2 – Plan Change Scenarios PC-1 and PC-2

2020 Valuation ($ in millions)	Baseline	Uni-2	Uni-2 + PC-1	Uni-2 + PC-2
Present Value of Benefits (PVB):	$3,714.2	$3,846.5	$3,836.0	$3,845.1
Change from Baseline Valuation:		$132.3	$121.8	$130.9
Present Value of Future Salary for Uni-2 members:	N/A	$370.5	$452.5	$452.5
Additional Contribution Rate (% of Future Salary) for Uni-2 members needed to offset the increase in PVB:	N/A	35.72%	26.91%	28.94%

The “Change from Baseline Valuation” values shown above in column Uni-2 are based on the current Group C retirement assumption that members retire at the age they are first eligible. For comparison/sensitivity purposes, we have also modeled based on the assumption that Uni-2 members retire at age 55 and at age 57. Assuming Uni-2 members retire at age 55, the change in Present Value of Benefits (PVB) is $119.9 million and the additional contribution rate (% of future salary) for Uni-2 members needed to offset the increase in PVB is 28.62%. Assuming Uni-2 members retire at age 57, the change in PVB is $112.6 million and the additional contribution rate (% of future salary) for Uni-2 members needed to offset the increase in PVB is 24.89%.