Actuarial valuation of the

State of alaska long term care program as of 6/30/2021

Segal

JULY 30, 2021

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CONTENTS

PURPOSE & SCOPE

BACKGROUND AND SCOPE

The Segal Company ("Segal") retained Lewis & Ellis, Inc. ("L&E") to perform an actuarial analysis of Alaska's Long-Term Care ("LTC") Program as of June 30, 2021. Specifically, our assignment was to develop a projection of future cash flows and to evaluate the adequacy of current assets and premium levels based on those cash flows.

This report summarizes the results of our actuarial valuation of Alaska's LTC Program as of June 30, 2021. Please note that this report is not meant to serve as complete actuarial documentation for this valuation. Additional data/information can be provided upon request.

We developed projected values using a seriatim projection model and we used those projected values along with current program financial information to determine the financial standing of the program. Consistent with the purpose of the valuation, no membership growth was assumed. The projection period is 60 years for the LTC in force. Gains and losses are accumulated at the effective earned rate over the projection period. The value at the end of the projection period could then be discounted at the earned rate to determine the magnitude of the deficiency reserve if the ending value was negative.

The projections of earnings are further dependent on numerous other assumptions that are outlined in detail in the following sections of this report. They are based on program experience where available and otherwise on our knowledge of industry experience. We have not generated liabilities and reserves consistent with statutory reporting requirements as this self-funded plan is not subject to such requirements.

Most of the data utilized by L&E in determining the values was obtained from State of Alaska representatives. We did not attempt to audit or verify the accuracy of this data; however, we did review the information for reasonableness and consistency. Any inaccuracies in this information could affect the results of this report, perhaps materially. The type of information provided includes, but is not limited to:

- Electronic listing of State of Alaska members;
- Claim payments from 2009 to May 31, 2021;
- Plan descriptions and gross premium rates for the model plan/age cells;
- Financial Statements for 2013-2021;

LIMITS ON DISTRIBUTION AND UTILIZATION

This report has been prepared for Segal and the State of Alaska. L&E has developed this report for the purpose and with the limitations stated above. When distributed, this report must be distributed in its entirety.

Although the valuation projects earnings, this report should not in any way be presented or construed as an actuarial appraisal in accordance with Actuarial Standards of Practice Number 19.

Any reader of this report must possess a substantial level of expertise in areas relevant to this analysis to appreciate the significance of the assumptions and the impact of these assumptions on the illustrated results. This report must be read in its entirety to be understood. The reader should be advised by, among other experts, an actuary competent in the area of actuarial projections of LTC blocks of business so as not to misinterpret any of the projected results.

In addition, any third party with access to this report acknowledges, as a condition of receipt, that L&E does not make any representations or warranty as to the accuracy or completeness of this report. This report is not intended as a representation of the future solvency of the Program and should not be viewed as such.

CONFIDENTIALITY OF REVIEW & RELIANCES

This actuarial valuation was performed based on the best estimate assumptions that are appropriate at the date of valuation. We do not reflect the potential for adverse deviations in actual future experiences in our best estimate assumptions. Assumptions could change as more information becomes known, which would impact the funded status reported in this valuation.

All source records and detail information are maintained at the Allen, Texas office of L&E, and members of L&E staff are available to explain any matter presented herein. Please direct any inquiries to Brian Rankin.

SUMMARY

The purpose of the remainder of this report is to provide analysis of the reserve adequacy for all plans. Premiums, benefits and expenses were projected for 60 years for the State of Alaska's LTC program and then discounted back to June 30, 2021 at an appropriate discount rate. This present value was then compared to the total assets at June 30, 2021[i] to determine if the current assets are sufficient to fund future claims and expenses for the next 60 years.

VALUATION RESULTS

The following table summarizes the present value of cash flows discounted at the net earned rates.

Component	6/30/2019 ($000)	6/30/2021 ($000)
1. PV of Future Benefits	$740,263	$779,931
2. PV of Future Expenses	$7,108	$8,503
3. PV of Future Premiums (PVFP)	$315,648	$336,381
4. Cash Flows (3-1-2)	($431,723)	($452,053)
5. Valuation Assets	$526,287	$696,258
6. Valuation Margin (5+4)	$94,564	$244,205
Margin as a % of PFVP (6/3)	30.0%	72.6%
Funded Status (5/4)	121.9%	154.0%

VALUATION MARGIN

The Valuation Margin has fluctuated over the last six years as a result of plan experience, investment returns, actuarial assumptions and the growth of the Program. The table below shows the margin/deficit for the Long-Term Care Program for the valuation reports beginning in 2009 ($000).

Valuation Date	Margin (Deficit) ($000)
June 30, 2009	$3,298
May 31, 2012	($70,875)
May 31, 2012 (Revised)	$30,289
June 30, 2015	$27,244
June 30, 2017	$7,372
June 30, 2019	$94,564
June 30, 2021	$244,205

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[i] The census data for the projections were based on data as of 5/31/2021

METHODOLOGY

The present value calculations needed to compute Program liabilities consider expected future benefits, expenses and premium revenue discounted to the current valuation date. The present value calculations consider all future variables that affect the members' continued participation in the LTC Program, as well as the benefits or expenses they will generate.

Information was provided to Lewis & Ellis regarding program specifications and supporting data. Claims detail was provided through May 31, 2021. The remaining information was as of June 30, 2021. Seriatim records were used to project future premiums and claims using proprietary software and then summarized by various plans in spreadsheets. All items of income and expenses were projected, as well as all items affecting cash flows. The models recognize the timing of benefit payments, premium income, expenses and other significant cash flow items.

Appropriate considerations in plan modeling to major plans include the following:

- Type of coverage (nursing home, home health care, or both);
- Benefit period;
- Presence (or absence) of automatic inflation benefit;
- Level of premiums;
- Issue age range; and,
- Gender.

All of the above considerations were taken into account in determining the modeling for each individual.

ASSUMPTIONS

L&E relied on Alaska personnel to provide a variety of information and data on the LTC coverage in force. Although we did not independently verify nor audit this information supplied, we did review the information for reasonableness and consistency.

Alaska personnel supplied us with information regarding the gross premium rates, benefits, and coverage outlines for all of the LTC plans currently in force. The information was transmitted to us electronically.

Prior valuation assumptions were validated against recent program experience. Future experience is based on projected future claim costs. Actual results will almost certainly differ from projected results. Each assumption utilized for completing the calculations is shown in detail in the remainder of this section.

Loss ratios on Long Term Care business are typically quite low in the early durations, but increase significantly by policy duration and as the insured ages. Alaska's experience has been consistent

with this pattern. The State of Alaska has established the Retiree LTC Insurance Fund to support future LTC liabilities. As of June 30, 2021, the total assets of the LTC Fund were approximately $757 million.

Except where the plan provides for an automatic increase in the claim costs, neither the claim costs nor gross premiums have been adjusted for possible future claims inflation.

MODEL PLANS

The following model plans are listed with a brief description of each plan.

Benefit	Benefit Summary by Plan Option			
	Bronze	Silver	Gold	Platinum
Lifetime Max	$200,000*	$400,000	$300,000	$300,000
Inflation Protection	None	None	5% Simple to age 85	5% Compound to Age 85
Elimination Period	90 Day	90 Day	90 Day	90 Day
Benefit Trigger	2 of 5 ADLs	2 of 6 ADLs or CI	2 of 6 ADLs or CI	2 of 6 ADLs or CI
NH Daily Benefit	$125 in-state, $75 out-of-state	$200	$200	$200
ALF Daily Benefit	If approved	$150	$150	$150
HHC Daily Benefit	$75 in-state, $40 out-of-state	$125	$125	$125
Hospice Daily Benefit	Not covered	$125	$125	$125
Respite Benefit	Not covered	Up to $200 daily, 14 days per calendar year	Up to $200 daily, 14 days per calendar year	Up to $200 daily, 14 days per calendar year

DISTRIBUTION

The following tables outline the distribution of current policyholders. :

Benefit Option	Lives	Distribution
Bronze	4,422	20.8%
Silver	8,313	39.1%
Gold	5,703	26.8%
Platinum	2,829	13.3%
Total	21,267	100.0%

Gender	Lives	Distribution
Female	12,098	56.9%
Male	9,169	43.1%
Total	21,267	100.0%

LAPSES

The lapse assumption reflects the expected portion of participants who terminate their policies each year by not paying the renewal premiums. Lapse assumptions can vary based on a wide variety of factors, including the participants' age at enrollment and the number of years participants have their policies. In general, it is assumed that the longer that participants keep their policies, the less likely they are to lapse. Lapse rate assumptions greatly affect long-term care insurance premiums because when individuals lapse, future liabilities are immediately reduced although current assets are not affected.

Prior valuations have utilized ultimate lapse rate of 0.5%. We believe this is an appropriate ultimate lapse rate and therefore the lapse assumptions are consistent with the prior actuarial valuation.

Policy Year	Voluntary Lapse Rate
1	2.3%
2	1.2%
3	1.0%
4	0.9%
5	0.8%
6	0.7%
7	0.6%
8+	0.5%

MORTALITY

Sex distinct 1994 GAM Table

MORBIDITY

For Long-Term Care insurance products, the substantial financial risks lie in morbidity assumptions. The morbidity assumptions reflect the amount of claim costs expected for participants. The key components driving claim costs are:

- Claim Incidence, which is the probability of going on claim
- Claim continuance, which is the length of time staying on claim, and
- Utilization, which is the level of claim payment.

It would be preferable to use the experience from the Alaska LTC Program. However, there have been less than 1,500 claims since the inception of the Program in 1987. Since this data is not fully credible the expected claim costs were developed from L&E's expected incidence rates and continuance tables and adjusted for State of Alaska's experience relative to L&E's expected costs.

EXPENSES

We reviewed the actual expenses provided in the financial statements. The administrative expenses have averaged 1.4% for fiscal years 2013 through 2019. Typical LTC insurance industry expense assumptions are significantly higher than this. This projection assumes administration expenses of 2.0% of premium increasing by 1.5% per year.

DISCOUNT RATE

We assumed a level 5.0% earned interest rate. The discount rate is a major component of the valuation process and is used to determine present values of the future premiums, expenses and benefits. We reviewed the Program investment returns over the last five fiscal years. We calculated investment returns based on investment income and the average balance of the fund at the beginning and end of each fiscal year:

| Fiscal Year | Investment Results ($000) | | Fund Return |
	Net Investment Income	Average Fund Balance	
2013	16,961	274,218	6.2%
2014	36,114	305,279	11.8%
2015	10,182	341,080	3.0%
2016	14,478	376,669	3.8%
2017	28,892	415,207	7.0%
2018	20,001	456,686	4.4%
2019	39,328	502,959	7.8%
2020	43,259	562,536	7.7%
2021	106,624	649,736	16.4%
Average	35,103	482,184	7.3%

Based on recent investment experience, the prior valuation rate and input from the State of Alaska we selected a 5.0% earned rate for the LTC valuation. This rate was assumed for all future years of the projection.

The assumed discount rate is 25 basis points less than the expected return of the Retiree LTC Insurance Investment Guidelines. The discount rate is also 370 basis points less than the average return over the last five years. The Sensitivity Analysis section includes results based on changing the discount rate.

RATE INCREASES

If the State of Alaska LTC Program has a deficit[ii] (liabilities in excess of assets) it can be recovered only through actuarial gains or increases in future premiums. The actuarial valuation does not dictate a premium adjustment at this time. It is important that the financial progress of the Program be monitored closely so that the State of Alaska can act quickly to adjust future premiums to maintain the Program's solvency.

Regarding all assumptions previously discussed, actual experience may differ from that assumed in the projections. To the extent actual experience is different from the assumptions underlying this report, so will actual results differ from the projected results shown here. Sensitivity of results to changes in assumptions is provided in the Sensitivity Analysis section.

CLAIM RESERVE (CLAIMS PAYABLE)

The financial statements included a liability of claims payable. We calculated the claim liability by using the seriatim listing that was provided that contained Pending Claims as of the valuation date. We used this L&E continuance tables in order to calculate the present value of amounts not yet due (PVANYD). There were only 329 open claims which limits the credibility of the experience. We also reviewed the overall experience of the Alaska LTC Program Experience by calendar year.

Fiscal Year	Claims Payable ($000)	Source
2013	16,822	Alaska
2014	21,612	Alaska
2015	26,630	L&E
2016	28,574	L&E
2017	31,352	L&E

[ii] Commercial LTC insurance programs are required to maintain statutory reserves and additional surplus. These two items could be another resource to mitigate rate increases.

Fiscal Year	Claims Payable ($000)	Source
2018	34,802	L&E
2019	36,015	L&E
2020	51,614	L&E
2021	60,000[iii]	L&E

ACTUAL EXPERIENCE TO PROJECTED VALUES

The Alaska LTC Program covers less than 25,000 lives. In addition, LTC experience fluctuates on several factors including demographics, the economy and access to facilities. We compared the prior valuation to recent experience:

Fiscal Year	Paid Claims ($000)		Actual - Projected	Actual/ Projected
	Actual	Projected		
2020	14,905	17,999	(-3,094)	83%
2021	16,191	20,602	(-4,411)	70%

Claim costs were developed based on a combination of Alaska experience, industry experience, client data and actuarial judgment. To project future claim experience, the claim cost models were calibrated to produce loss ratios that are similar to recent experience.

The future projected claims were generated by applying the claim costs to the 5/31/2021 census. The projected claims (which are used in the actuarial valuation) are somewhat greater than recent experience. The incurred loss ratios are consistent with recent experience.

[iii] Estimate based on 5/30/2021 data.

SENSITIVITY ANALYSIS

We ran sensitivity tests to determine if the reported assets are sufficient with respect to morbidity, voluntary lapses, mortality, and investment earning. Results are highly sensitive to the assumptions underlying the calculations. Sensitivity Results ($000):

Scenario	Sufficiency (Deficiency)	
	5.00%	5.25%
Base	244,205	269,320
Increase morbidity by 3.5%	216,908	243,128
Increase morbidity by 5.0%	205,209	231,903
Voluntary lapse @ 150%	268,368	292,410
Voluntary lapse @ 50%	217,909	244,676
Mortality @ 90%	178,168	207,447

We also ran sensitivity tests to determine what investment rate would be required if the assumptions were all equally adverse. The 4% adverse projections assumed that claims and expenses are 4% greater and that the termination[iv] (lapse and mortality) rates are 96% of projected. We also tested the projected experience as 5% adverse. We then determined what investment rate would be required so that there is no future deficiency:

Adverse Experience	Required Investment Return
4.00%	3.65%
5.00%	3.72%

[iv] Lower lapse and mortality rates increase future claims since more future policyholders will go on claim.

PROJECTED CASH FLOWS

Fiscal Year	Lives	Earned Premium	Expenses	Paid Claims	Incurred Claims	Loss Ratio
2022	20,609	35,093,735	789,609	18,421,506	20,051,300	57%
2023	19,888	33,865,925	773,413	21,918,012	22,235,506	66%
2024	19,180	32,661,414	757,094	25,414,518	24,613,031	75%
2025	18,469	31,449,481	739,936	26,397,240	27,171,316	86%
2026	17,750	30,226,323	721,825	28,449,071	29,927,690	99%
2027	17,025	28,991,363	702,718	28,297,014	32,858,801	113%
2028	16,293	27,744,347	682,580	31,107,295	35,935,849	130%
2029	15,553	26,485,270	661,377	34,081,234	39,159,324	148%
2030	14,807	25,214,701	639,094	37,202,558	42,492,189	169%
2031	14,055	23,933,170	615,711	40,449,040	45,901,987	192%
2032	13,298	22,644,077	591,286	43,793,567	49,371,823	218%
2033	12,538	21,351,203	565,889	47,203,199	52,824,346	247%
2034	11,779	20,058,688	539,607	50,634,073	56,219,862	280%
2035	11,023	18,771,032	512,542	54,029,855	59,467,613	317%
2036	10,273	17,493,052	484,811	57,333,510	62,542,428	358%
2037	9,531	16,229,884	456,550	60,485,075	65,357,250	403%
2038	8,801	14,986,944	427,910	63,426,708	67,872,140	453%
2039	8,086	13,769,836	399,056	66,101,174	70,037,920	509%
2040	7,390	12,584,268	370,168	68,448,771	71,746,568	570%
2041	6,716	11,435,935	341,436	70,404,312	72,978,170	638%
2042	6,066	10,330,380	313,054	71,908,438	73,668,839	713%
2043	5,445	9,272,894	285,223	72,918,847	73,826,448	796%
2044	4,856	8,268,384	258,140	73,403,577	73,419,820	888%
2045	4,299	7,321,240	231,999	73,340,476	72,428,654	989%
2046	3,779	6,435,154	206,979	72,711,158	70,862,057	1101%
2047	3,296	5,612,978	183,243	71,520,411	68,791,461	1226%
2048	2,852	4,856,663	160,930	69,780,022	66,152,136	1362%
2049	2,447	4,167,239	140,157	67,507,420	63,057,766	1513%
2050	2,082	3,544,798	121,011	64,743,053	59,586,817	1681%
2051	1,755	2,988,493	103,550	61,550,312	55,771,537	1866%
2052	1,466	2,496,521	87,801	57,992,966	51,730,551	2072%
2053	1,213	2,066,173	73,756	54,149,039	47,543,292	2301%
2054	995	1,693,942	61,375	50,099,764	43,258,229	2554%
2055	808	1,375,656	50,591	45,918,695	38,975,004	2833%
2056	650	1,106,656	41,309	41,685,131	34,776,252	3142%
2057	518	881,980	33,416	37,479,903	30,723,501	3483%
2058	409	696,531	26,786	33,375,676	26,885,094	3860%
2059	320	545,244	21,282	29,442,011	23,328,975	4279%
2060	249	423,231	16,768	25,739,522	20,073,234	4743%
2061	191	325,908	13,105	22,309,846	17,129,710	5256%
2062	146	249,089	10,167	19,177,122	14,506,763	5824%
2063	111	189,053	7,832	16,352,528	12,186,034	6446%
2064	84	142,567	5,995	13,834,578	10,157,760	7125%
2065	63	106,878	4,562	11,616,115	8,419,019	7877%
2066	47	79,690	3,452	9,684,533	6,925,185	8690%
2067	35	59,123	2,600	8,021,022	5,671,941	9594%
2068	26	43,656	1,948	6,601,293	4,610,036	10560%
2069	19	32,086	1,453	5,399,352	3,723,192	11604%
2070	14	23,468	1,079	4,389,605	2,999,831	12782%
2071	10	17,076	797	3,551,093	2,406,713	14094%
2072	7	12,352	585	2,860,932	1,925,784	15590%
2073	5	8,878	427	2,296,558	1,537,582	17320%
2074	4	6,333	309	1,838,097	1,223,361	19317%
2075	3	4,480	222	1,465,559	962,711	21491%
2076	2	3,138	158	1,162,034	753,122	24002%
2077	1	2,174	111	914,804	582,290	26787%
2078	1	1,487	77	714,191	445,047	29921%
2079	1	1,004	53	551,936	336,348	33504%
2080	-	667	36	421,982	250,921	37596%
Total PV Future:		336,381,001	8,502,584	779,931,104	802,319,723	239%