Continental Casualty Company ("CCC")
Actuarial Memorandum
In Support of a Premium Rate Increase Request
Maryland

The following "Preferred Solution" individual long term care policy forms subject to this rate increase request were originally issued nationwide from 1998 to 2003:

Coverage Type	Policy Form*
Comprehensive	P1-N0080-A19
	P1-N0081-A19
	P1-N0085-A19
	P1-N0086-A19
	P1-N0095-A19
	P1-N0096-A19
	P1-N0100-A19
	P1-N0101-A19

*Policies with compound automatic increase benefit rider R1-N0088/R1-N0078 series or simple automatic increase benefit rider R1-N0098/ R1-N0079 series only.

1. Purpose and Justification of Filing

The purpose of this memorandum is to provide actuarial information supporting CCC's request for a rate increase for the above-listed policy forms. The rate increase request varies by benefit period and automatic increase benefit (AIB) rider as follows:

	Policies with AIB Rider	Policies without AIB Rider
Unlimited Lifetime Max Benefits	263.3%	0.0%
Non-Lifetime Max Benefits	40.6%	0.0%

This rate increase is requested in order to establish premium rates that are reasonable in relation to benefits based on actual historical experience and best-estimate projections for these forms. This rate filing is not intended to be used for other purposes.

The rate increase requested is reflective of the rate relief required to restore this block of policies to a lifetime loss ratio of 100%, an actuarially appropriate level in excess of the originally priced targets. The 263.3% rate increase will be implemented over three years as 70.0% in the first two years and 25.7% in the third year.

The Company acknowledges that COMAR 31.14.01.04A(5) limits annual rate increases to 15% and hence calculated equivalent indications. For insureds with AIB rider and unlimited lifetime max benefits, this would result in an equivalent cumulative rate indication of more than 1100% spread over more than 15 years. For insureds with AIB rider and non-lifetime max benefits, this would result in an equivalent cumulative rate indication of 46.8% with 15% implemented in the first two years followed by an 11% increase in the third year. To avoid the significant impacts on the implementation period from the cost of waiting especially on cohort with AIB rider and unlimited lifetime max benefits, the Company requests that rate increases be approved at the requested rates of 263.3% and 40.6% shown above and supported by the exhibits and rate sheets.

To the extent that states do not approve the requested amounts, it is the intent of management to submit follow up filings, where not otherwise limited by law or regulation, such that an actuarially equivalent increase amount is attained. Upon approval of this rate revision, CCC will communicate to insureds their options to reduce the impact of the rate increase. These options may include increasing the elimination period, reducing the lifetime maximum, reducing the daily benefit or eliminating optional riders.

Because the requested rate increase applies to policies with an AIB rider, insureds with an increase and AIB rider who choose to drop it (i.e., Freeze and Drop) will:

- Not be subject to this AIB rate increase;
- Retain their inflated benefits as of the effective date of the coverage change; and
- Be charged an original issue age premium based on the original non-inflated benefits.

Available options will depend upon the insured's current coverage levels, benefit options available under their specific policy form, and any statutory minimum benefit levels in your state.

In addition, the Company is making an option available for all insureds in conjunction with this rate increase. This option provides an Increased Contingent Non-Forfeiture ("ICNF") benefit upon lapse. If this benefit is elected by the insured, the insured will not have to pay prospective premium, and their remaining benefit pool amount will equate to 150% of lifetime premiums paid, capped at current remaining lifetime benefits.

If a policy lapses due to non-payment of premiums without notifying the Company of the insured's intention to elect any of the above options, the insured's coverage will default to a standard 100% CNF benefit.

Although certain policy forms were originally priced prior to rate stability under the NAIC model regulation, policies have been added after rate stability. Therefore, this filing is being made according to your state's rate stability requirements.

Please note:

- The proposed rate increase represents the future premium rate required to produce a 100% after-interest lifetime loss ratio;
- The requested rate increase amount is less than the amount CCC can justify; and
- CCC will continue to monitor the experience of this block and will react accordingly to experience development.

2. Description of Benefits

This rate increase applies only to Preferred Solution policies with an optional AIB rider.

- All of the forms are guaranteed renewable individual long term care policies sold through non-captive agents. These tax qualified and non-tax qualified forms provide long term care confinement and home health care benefits with lifetime limits. Benefits are limited to the policy's lifetime maximum, which is equal to the following multipliers times the facility daily benefit amount: 365x, 730x, 1,095x, 1,460x, 1,825x, or Unlimited. Benefit eligibility for the tax qualified forms requires inability to perform two or more activities of daily living or being cognitively impaired. Benefit eligibility for the non-tax qualified forms requires inability to perform two or more activities of daily living, being cognitively impaired, or medical necessity.

- Long Term Care Benefits: These policies pay the long term care daily benefit amount, as shown on insured's policy schedule, for each day of long term care confinement in a nursing home or assisted living facility, limited to the benefit lifetime maximum.

- Home Health Care Benefits: For comprehensive policy forms, this policy pays 100% of the expenses incurred for each day of care for therapist or nurse, 100% or 80% (percentage varies by form) of the expenses incurred for each day of care for home health aide, medical social worker, or homemaker, and 100% or 80% (percentage varies by form) of expenses incurred for each day of care for adult day care or alternate care facility. The total benefits payable each day for home health care benefits are limited to the daily benefit amount shown on the insured's application and are subject to the policy's benefit lifetime maximum.

- Other Benefits: The policies may include a bed reservation, waiver of premium, non-forfeiture, and alternate plan of care benefit.

- Optional Benefits: Optional riders may include survivorship, shared benefit, dual waiver of premium, and restoration of benefits.

3. Renewability

These forms provide the insured guaranteed renewable individual long term care coverage.

4. Applicability of Rate Increase

This filing applies to in-force insureds only, as these forms are no longer being marketed. The premium change will apply to the base forms and all riders associated with the base forms for policies.

5. Experience Study and Actuarial Assumptions

This section provides a summary of the results of the annual experience study, along with the resulting assumptions utilized in the projection model. These liability assumptions below are consistent with the assumptions being used in the Company's reserve adequacy and asset adequacy testing, with the exception of dynamic market-based assumptions (interest rates and inflation), which are based on statutory assumptions. It is noted that some actual to expected ("A/E") analysis tables in this section have A/E ratios other than 100%. In order to reduce year over year volatility, if A/E results from the experience study are within an internal target range, the assumption will not be revised from the prior year's assumption.

Morbidity Overview

CNA has a sizeable block of LTC policies with a robust and credible amount of claims experience. As such, the 2022 morbidity study used experience from 2012 to 2021 to develop frequency and severity assumptions. CNA assesses morbidity experience for the Individual Long-Term Care, Group Long-Term Care and State Farm blocks of business. Furthermore, any variation in assumption by different policyholder characteristics (i.e., gender) is based on company experience where meaningful variation has existed and is expected to continue in the future.

Assumptions are set at a granular level to provide the best possible fit to experience. A dynamic validation is then performed to ensure that assumptions provide a reasonable fit in the aggregate. The dynamic validation was performed by modeling best-estimate assumptions with inforce liability data as of December 31, 2018 as well as June 30, 2018 to see how well the assumptions would replicate actual historical experience. Based on how well the model fit actual claims experience during the annual reserve review, additional incidence calibration factors may be applied.

For policyholders aged 85 and older, CNA has approximately over 350K exposure years and over 35K claims. For older attained ages with less credible data, CNA has set incidence, claim recovery and utilization assumptions using age bands where assumptions do not vary beyond a certain age threshold. Disabled life mortality varies by attained age and is based on a 2012 IAM mortality table for attained ages 0 to 100 and based on the maximum of 2000 Annuity and 2012 IAM for attained ages 100 and older. Impairment factors by attained age are applied to this table to account for the higher mortality rates associated with disabled lives compared to healthy lives.

Morbidity experience can vary from carrier to carrier based on policy language, claim adjudication practices and rate increase programs undertaken. These differences are not typically captured in industry studies. Given the fact that CNA has credible and robust claims experience, assumptions were set entirely based on company experience and were not directly compared to industry data.

The ILTC block is past its peak number of claims so the number of new incurred claims has been slowing. Also, within the study period mentioned above, CNA has implemented ILTC rate increases, which has temporarily increased incidence due to anti-selection.

The amount of new incurred claim dollars has increased over the recent past due to increases in the cost of care. Incurred claim dollars are expected to continue to increase for ILTC over the near to mid-term.

Claim Incidence

The frequency of claim is the probability that a healthy insured will go into disabled status, also known as 'claim incidence'. The final incidence rate that gets modeled is comprised of a base incidence table, adjustment factors based on policy features and demographics, and adjustments for policyholder behavior to rate actions.

Base Incidence Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC base incidence rates, which includes experience over the past ten years. These tables show policy experience prior to any rate increases in order to avoid distortion caused by temporary anti-selection, which is layered on separately. This explains the shrinking exposure years over time. Something of note is the Individual Long-Term Care block has undergone significant rate action initiatives over the recent past, causing limited credibility that may not be representative of nationwide experience. This experience was factored into the assumption setting process but weighted according to the exposures shown below:

Individual Long Term Care						
Calendar Year	Exposures (Years)	Actual Claims	Expected Claims	Actual Incidence Rate	Expected Incidence Rate	Actual / Expected
2012	222,738	5,678	6,066	2.5%	2.7%	93.6%
2013	212,121	6,023	6,184	2.8%	2.9%	97.4%
2014	200,668	6,401	6,324	3.2%	3.2%	101.2%
2015	189,673	6,928	6,374	3.7%	3.4%	108.7%
2016	178,588	6,592	6,372	3.7%	3.6%	103.5%
2017	168,256	6,862	6,483	4.1%	3.9%	105.8%
2018	158,472	6,748	6,440	4.3%	4.1%	104.8%

2019	149,281	6,700	6,495	4.5%	4.4%	103.2%
2020	140,203	5,586	6,413	4.0%	4.6%	87.1%
2021	131,992	5,744	6,375	4.4%	4.8%	90.1%
Total	**1,751,992**	**63,262**	**63,526**	**3.6%**	**3.6%**	**99.6%**

Base Incidence Assumption

The base incidence rates are single-dimensional tables that vary by attained age. These base incidence tables vary by the following:

- Whether the policy covers comprehensive or facility only benefits
- The situs of the claim (Nursing Home, Home Health Care, Assisted Living Facility)
- Gender

A sample table is shown below:

Plan Type: Comprehensive
Gender: Male
UW Class: Standard
Elimination Period: 1 to 89 days
Benefit Period: Lifetime
Tax Status: Tax Qualified

Incidence Rate Adjustment Factors

There are a number of incidence rate adjustment factors that are applied to adjust the base incidence tables for various policy features. The annual experience study reviews these adjustment factors and provides updates as needed. The incidence adjustment factors are shown below:

LTC Incidence Adjustment Factors:

Category	Variable/Benefit Feature	2022 Adjustment Factor
Underwriting Class	Preferred	1
	Standard	1.3082
	Substandard	1.3622
Elimination Period	0 Days	1
	1-89 Days	0.8068
	90+ Days	0.8068
Benefit Period	Lifetime	1.2418
	Non-Lifetime	1
Tax Status	Tax Qualified	0.8366

	Non-Tax Qualified	1
Policyholder Response to Rate Actions (multiplier when a rate increase is assumed in AXIS)	ILTC	1.1000 for 1 year period

Future Incidence Improvement (i.e., Morbidity Improvement)

No future incidence improvement is assumed.

Model Calibration

The morbidity assumptions are intended to reflect the best estimate of the long term. Long-Term Care policies are complex and have multiple decrements. Assumptions are developed independently and when combined in the model, they do not always produce results that seem reasonable. Model calibration is performed when necessary to fit the model to the long-term view.

A dynamic validation was performed by modeling best-estimate assumptions with inforce liability data as of December 31, 2018 to see how well the assumptions would replicate actual experience in the near term. Based on how well the model 'fits' actual claims experience, additional incidence calibration factors may be applied. A temporary ILTC calibration factor of 1.05 starting in 2019 and linearly grading down to 1.00 by 2025 was selected to recalibrate experience such that the model fits better in the near term. This adjustment was unchanged for the 2021 annual reserve review.

Calendar Year	Calibration Factors
2021	1.03
2022	1.02
2023	1.01
2024+	1.00

Claim Severity

In the projection system, the severity of claim is the associated length and cost of a claim once an insured becomes disabled (or is already disabled). The severity of a claim is driven by three key assumptions:

- Claim Recovery
- Benefit Utilization
- Disabled Life Mortality

A further breakdown of these three components is described below.

Recovery Overview

Once a policyholder is on claim, there is an associated probability that the policyholder will recover back in to a 'healthy' status prior to death or exhausting benefits. This is the recovery rate assumption in the projection model.

Recovery Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC recovery rates, which includes experience over the past seven years:

Individual Long Term Care						
Calendar Year	Actuals			Future Claims		
	Exposures (Years)	Actual Claims	Actual Recovery Rate	Expected Recoveries	Expected Recovery Rate	Actual / Expected
2015	13,647	1,431	10.5%	1,498	11.0%	95.5%
2016	14,230	1,497	10.5%	1,481	10.4%	101.1%
2017	14,704	1,431	9.7%	1,456	9.9%	98.3%
2018	15,015	1,404	9.4%	1,440	9.6%	97.5%
2019	15,204	1,488	9.8%	1,421	9.3%	104.7%
2020	14,480	1,561	10.8%	1,274	8.8%	122.5%
2021	13,432	1,198	8.9%	1,217	9.1%	98.4%
Total	**100,712**	**10,010**	**9.9%**	**9,787**	**9.7%**	**102.3%**

Recovery Assumption

The recovery tables are two-dimensional that vary by age of disability and disability duration. The first five years of the tables contain monthly rates and are annual thereafter. The recovery tables vary by the following:

- Benefit period (lifetime vs non-lifetime)
- Gender
- Presence of a restoration of benefits rider
- The situs of the claim (Nursing Home, Home Health Care, Assisted Living Facility)
- Diagnosis of the claim (for insureds currently on claim)
- Tax-qualified status (tax-qualified, not tax-qualified)
- Eliminated period (0 day, 1-89 day, 90+ day)

Insureds that are currently in claim status have a known situs of care, so the recovery rates will be different than a policy currently in healthy status, since the future claim situs is unknown.

A sample table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Policyholder Status: Healthy
Benefit Period: Lifetime
Gender: Female
Restoration of Benefits: No
Situs: Nursing Home (original, since policy is healthy)
Tax-Qualified Status: Not tax-qualified
Elimination Period: 1 to 89 days

Disability Month	Disablement Age			
	65	75	85	95
3	5.21%	3.66%	2.56%	2.17%
6	1.84%	1.29%	0.90%	0.77%
9	0.55%	0.38%	0.27%	0.23%
12	0.42%	0.29%	0.20%	0.17%
24	0.27%	0.19%	0.13%	0.11%
36	0.19%	0.13%	0.09%	0.08%
48	0.19%	0.13%	0.09%	0.08%
60	0.19%	0.13%	0.09%	0.08%

Utilization Overview

The utilization assumption in the model for expense reimbursement policies represent the amounts, or severity, of paid claims and include components for cost of care, coverage available and the intensity of care ("health trend"). The available benefit is also considered by capping paid claims at the daily benefit amount.

Expense reimbursement refers to policies that are reimbursed up to the maximum daily benefit. They are considered separately from indemnity policies because indemnity policies pay the full maximum daily benefit. Expense reimbursement claim amounts are affected by cost of care inflation, intensity of care (referred to as "health trend"), and the amount of initial coverage purchased.

Health trends represent the intensity of care needed for claimants. Health trend is the ratio of inflation-adjusted paid claims divided by initial available benefits:

$$Health\ Trend = \frac{\frac{Paid\ Claim}{(1 + CostOfCare\ Inflation)^{(Experience\ Year - Issue\ Year)}}}{Initial\ Available\ Benefits}$$

Indemnity policies have separate utilization assumptions from expense reimbursement policies because they pay their full available benefits and are not dependent on cost or intensity of care. Although indemnity policies pay the full maximum daily benefit, utilization rates are still below

100% because insureds are not in facilities 100% of the time. For example, if an insured is only in a facility 28 out of the 30 days in each month, then they would have a utilization rate equal to 28/30 = 93%. This is because benefit periods are based on service days and not strictly calendar days.

The utilization cost of care assumption is based on statutory valuation assumptions. Prospective cost of care inflation expectations are dynamically linked to future interest rates.

Utilization Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC utilization rates, which includes experience over the past seven years:

Utilization (Active Lives) Individual Long Term Care					
Calendar Year	Actual Paid Claims (Millions)	Expected Future Claims (Millions)	Maximum Available Benefit (Millions)	Expected Utilization Rate	Actual / Expected
2015	562	570	824	69%	98.6%
2016	623	626	909	69%	99.5%
2017	666	670	978	69%	99.4%
2018	708	716	1,052	68%	98.9%
2019	750	758	1,122	68%	98.9%
2020	761	762	1,126	68%	99.9%
2021	734	726	1,093	66%	101.1%
Total	**4,804**	**4,828**	**7,104**	**68%**	**99.5%**

Utilization (Disabled Lives) Individual Long Term Care					
Calendar Year	Actual Paid Claims (Millions)	Expected Current Claims (Millions)	Maximum Available Benefit (Millions)	Expected Utilization Rate	Actual/Expected
2015	562	552	824	67%	101.8%
2016	623	607	909	67%	102.6%
2017	666	650	978	66%	102.5%
2018	708	693	1,052	66%	102.2%
2019	750	736	1,122	66%	101.9%
2020	761	736	1,126	65%	103.4%
2021	734	698	1,093	64%	105.2%
Total	**4,804**	**4,672**	**7,104**	**66%**	**102.8%**

Utilization Assumption

The health trend component of utilization tables are two-dimensional that vary by age of disability and disability duration. The first five years of the tables contain monthly rates and are annual thereafter. These tables vary by the following:

- Benefit Period (lifetime vs non-lifetime)
- Inflation type (simple, compound, none)
- Home health care percentage (0%, 1%-50%, 50%-75%, 75%+)
- The situs of the claim (Nursing Home, Home Health Care, Assisted Living Facility)
- Diagnosis of the claim (for insureds currently on claim)

In addition, the situs varies on whether the policyholder is healthy (original situs) versus disabled (current situs). A sample health trend table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Insured Status: Active
Benefit Period: Non-Lifetime
Inflation Type: Compound
Home Health Care Percentage: N/A (since situs is not home health care)
Situs: Assisted Living Facility (original, since policy is active)
Payment Type: Reimbursement
Diagnosis: N/A (because policy is active)

Utilization Health Trend Rate								
Disability Month	2021				2022			
	Disablement Age				Disablement Age			
	65	75	85	95	65	75	85	95
3	59.9%	65.1%	69.3%	72.5%	58.6%	63.5%	67.7%	71.2%
6	61.9%	65.1%	69.3%	71.4%	60.9%	63.9%	68.1%	70.0%
9	66.1%	69.3%	72.5%	73.5%	65.3%	67.6%	70.6%	73.5%
12	69.3%	71.4%	74.6%	75.6%	68.1%	70.1%	72.8%	74.1%
24	77.7%	76.6%	78.8%	78.8%	75.7%	75.5%	76.7%	77.2%
36	76.6%	78.7%	79.8%	76.6%	75.5%	77.6%	78.7%	74.9%
48	73.5%	75.6%	76.6%	73.5%	71.6%	73.8%	75.0%	71.7%
60	68.3%	71.4%	72.5%	68.3%	66.5%	69.6%	71.1%	66.9%

Cost of care tables are two-dimensional vectors that vary by calendar year and inflation type for reimbursement policies. The average cost of care is summarized below:

Cost of Care - ILTC		
Inflation Type	Historical Rate	Ultimate Rate
None	0.47%	1.30%
Simple	2.87%	3.70%
Compound	4.32%	5.15%

Disabled Life Mortality Overview

Once an insured is on claim, there is an associated probability that the insured will decrement due to death, which influences the overall length of a claim. Generally, the probability of death from a currently disabled insured is greater than the probability associated with a currently healthy insured, so separate assumptions are developed and modeled.

Disabled Life Mortality Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC disabled mortality rates, which includes experience over the past five years:

Best-Estimate Disabled Mortality A/E Results Individual Long Term Care						
Calendar Year	Actuals			Future Claims		
	Exposures	Disabled Deaths	Disabled Mortality Rate	Expected Disabled Deaths	Expected Disabled Mortality Rate	Actual / Expected
2015	13,647	4,179	30.6%	4,016	29.4%	104.1%
2016	14,230	4,185	29.4%	4,199	29.5%	99.7%
2017	14,704	4,389	29.8%	4,367	29.7%	100.5%
2018	15,015	4,443	29.6%	4,483	29.9%	99.1%
2019	15,204	4,444	29.2%	4,576	30.1%	97.1%
2020	14,480	5,161	35.6%	4,378	29.5%	120.6%
2021	13,432	4,321	32.2%	4,121	30.7%	104.9%
Total	**100,712**	**31,122**	**30.9%**	**30,140**	**29.8%**	**103.6%**

Disabled Life Mortality Assumption

The disabled life mortality rates are two-dimensional tables that vary by age of disability and disability duration. Similar to the other severity assumptions, the first five years of the tables contain monthly rates and are annual thereafter. The disabled life mortality tables vary by the following:

- Benefit period (lifetime vs non-lifetime)
- The situs of the claim (Nursing Home, Home Health Care, Assisted Living Facility)
- Gender
- Diagnosis of the claim (for insureds currently on claim)

Insureds that are currently in claim status have a known situs of care, so the disabled life mortality rates will be different than a policy currently in healthy status, since the future claim situs is unknown.

A sample table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Insured Status: Healthy
Benefit Period: Non-Lifetime
Situs: Nursing Home (original, since policy is healthy)
Gender: Male
Diagnosis: N/A (since status is healthy)

Disability Month	Disablement Age			
	65	75	85	95
6	2.68%	3.93%	4.47%	5.31%
12	2.10%	3.08%	3.50%	4.16%
18	1.80%	2.65%	3.05%	3.77%
24	1.82%	2.68%	3.08%	3.81%
36	2.07%	3.03%	3.53%	4.61%
48	2.23%	3.19%	3.76%	5.22%
60	2.47%	3.41%	4.06%	6.04%

Transitions of Situs

As part of the claim reserve review, utilization, disabled mortality, and recovery are considered together to determine if the assumptions produce reasonable claim development trends. Because the current projection model does not model future claim transitions, adjustments are made to disabled mortality, recovery, and utilization to account for these transitions.

The process to determine development factors was to review development based on counts comparing the projected counts in the model to the actual observed survivorship of claims. Adjustments were made to mortality and recovery rates to arrive at reasonable count development. After count development was reasonable, dollar development was reviewed and utilization was adjusted to arrive at a reasonable development pattern.

Persistency

In the projection system, the persistency assumptions relate to the probability that policyholders not on claim will lapse or die. Policyholder reduced benefit options are considered part of the persistency assumption and are modeled as partial lapses in the projection system. The persistency of an insured is driven by following key assumptions:

- Voluntary Lapse
- Shock Lapse and Reduced Benefit Option (“RBO”)
- Shock Mortality
- Healthy Life Mortality
- Healthy Life Mortality Improvement

A further breakdown of these components is described below.

Voluntary Lapse Overview

The voluntary lapse assumption reflects the probability associated with an insured voluntarily canceling their policy. The voluntary lapse rates differ from shock lapse rates in that the policy cancelation is not due to a rate increase notification.

Voluntary Lapse Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC voluntary lapse rates, which includes experience over the past seven years:

Individual Long Term Care						
Calendar Year	**Actuals**	**Expecteds**	**Exposures**	**Expected Rate**	**A/E**	**Credibility**
2015	1,186	1,053	168,490	0.62%	112.6%	100.0%
2016	886	975	158,919	0.61%	90.9%	90.5%
2017	726	897	148,019	0.61%	80.9%	81.9%
2018	691	833	138,306	0.60%	83.0%	79.9%
2019	541	760	127,369	0.60%	71.2%	70.7%
2020	511	708	118,901	0.60%	72.2%	68.7%
2021	786	689	116,120	0.59%	114.1%	85.3%
Total	**5,327**	**5,915**	**976,124**	**0.61%**	**90.1%**	**100.0%**

Voluntary Lapse Assumption

The voluntary lapse tables are one-dimensional varying by policy duration. The voluntary lapse assumptions vary by the following:

- Benefit Period (lifetime vs non-lifetime)
- Inflation Type (simple, compound, none)
- Product
- Limited Pay Adjustment

A sample voluntary lapse table is shown below:

Product: ILTC
Issue Age: 75
Paid Up: No

Policy Duration	Base Voluntary Lapse Rate
1	1.90%
2	1.36%
3	1.26%
4	1.13%
5	1.13%
6	1.09%
7	0.95%
8	0.94%
9	0.94%
10	0.84%
11	0.74%
12	0.72%
13	0.69%
14	0.66%
15	0.60%
16+	0.60%

Shock Lapse and Reduced Benefit Option

The shock lapse and RBO assumptions are modeled as an increase in lapse rates in response to a rate increase. Shock lapse and RBO assumptions are determined by calculating the lapse rates in excess of base lapse rates during the years when a premium rate action occurs.

The assumed rates for each of these components are outlined in the below table for the ILTC product:

Rate Increase Amount	Additional Assumed Lapse from Shock Lapse and RBOs
0%	0.00%
5%	0.42%
10%	0.85%
15%	1.27%
20%	1.70%
25%	2.12%
30%	2.55%

35%	2.97%
40%	3.40%
45%	3.82%
50%	4.25%
55%	4.67%
60%	5.10%
65%	5.52%
70%	5.95%
75%	6.37%
80%	6.80%
85%	7.22%
90%	7.65%
95%	8.07%
100%	8.50%
105%	8.92%

Healthy Life Mortality Overview

The healthy life mortality assumption is the probability of death associated with healthy policyholders. The probability of death from a disabled policyholder is greater than the probability associated with a healthy policyholder, so separate assumptions are developed and modeled in the projection system.

The goal for 2021 was to create a model that was more transparent, less subjective, and more interpretable. The final model for 2021 Healthy Life Mortality was the following formula:

Healthy Life Mortality Rate = Base Mortality X Gender Factor X Underwriting Class Factor

The model used attained age squared, which helped capture the parabolic shift in mortality rates at the highest attained ages.

Healthy Life Mortality Actual to Expected Analysis

The below table summarizes the results of the experience study for ILTC healthy life mortality rates, which includes experience from 2015 to 2021:

Best-Estimate Disabled Mortality A/E Results						
Calendar Year	Individual Long Term Care					
	Exposures (Years)	Actual Death	Expected Death	Actual Death Rate	Expected Death Rate	Actual / Expected
2015	188,213	3,756	3,536	2.0%	1.9%	106.2%
2016	177,101	3,610	3,481	2.0%	2.0%	103.7%
2017	166,634	3,434	3,428	2.1%	2.1%	100.2%
2018	156,735	3,256	3,370	2.1%	2.2%	96.6%
2019	147,550	3,193	3,327	2.2%	2.3%	96.0%
2020	138,963	3,541	3,296	2.5%	2.4%	107.4%
2021	130,149	3,840	3,233	3.0%	2.5%	118.8%
Total	**1,105,345**	**24,630**	**23,671**	**2.2%**	**2.1%**	**104.1%**

Healthy Life Mortality Assumption

The base table for the healthy life mortality assumption is the 2012 IAM table, with additional multipliers based on company experience. There are also adjustments at higher attained ages, due to lack of credibility. At higher ages, the assumptions grade their credibility weighting from 100% of the best-estimate assumption at age 100, to 100% of the 2012 IAM tables at ages 110 and later. These base tables vary by gender and attained age. The additional multipliers to these base tables based on CCC's experience are as follows:

Category	Variable/Benefit Feature	Adjustment Factors 2021
Underwriting Class	Preferred	50%
	Standard	78%
	Substandard	100%
Gender	Female	100%
	Male	157%
Product	ILTC	100%
Attained Age	Attained Age	0% - 75%

Healthy Life Mortality Improvement

A healthy life mortality improvement factor is applied to the base healthy mortality table to reflect studies that examine the improvement of population mortality over time, based on improvement scale G2. The healthy life mortality improvement varies by gender and attained age with improvement beginning 1/1/2017 for 10 years. An example is shown below for reference:

Gender: Female

Attained Age	Annualized Improvement (Male)	Annualized Improvement (Female)
<=50	1.00%	1.00%
60	1.50%	1.30%
70	1.50%	1.30%
80	1.50%	1.30%
90	0.70%	0.60%
100	0.20%	0.20%
105	0.00%	0.00%

6. Discount Rate

The inforce count-weighted average maximum statutory valuation interest rate for contract reserves is used to accumulate past actual experience and discount future expectations. The table below summarizes the discount rate by product portfolio.

Product Portfolio	Discount Rate
Preferred Solution	4.50%

7. Expenses

This filing is based on loss ratios and expense levels have not been considered. Commissions are not paid on rate increase premiums.

8. Marketing Method

These policies were sold directly through non-captive agents.

9. Underwriting Description

These policy forms were fully underwritten with the use of various tools in addition to the application, which may have included medical records, an attending physician's statement, telephone interviews, and/or face-to-face assessments.

10. Premiums

Premiums are unisex and payable for life unless the insured selected a limited pay option. The premiums may vary by issue age, elimination period, benefit period / lifetime maximum, initial daily benefit amount, level of home health care coverage, inflation type, premium mode, underwriting class, marital status, and the selection of any other options or riders.

11. Modal Premium Factors

The following modal factors remain unchanged and are applied to the annual premium to obtain the modal premium.

Payment Mode	Modal Factor	Nationwide Premium Distribution at Dec. 31, 2022
Annual	1.000	56.8%
Semi-Annual	0.520	8.1%
Quarterly	0.270	20.3%
Monthly	0.090	14.9%

12. Issue Age Range

Issue ages range from 18 to 84.

13. Area Factors

Area factors are not used for these policy forms.

14. Average Annualized Premium

The average annualized premium for the policy forms subject to the rate increase request, both before and after the impact of the requested rate increase, is included in Exhibit 1.

15. Number of Insureds

The current number of insureds as of December 31, 2022 can be found in Exhibit 1.

16. Distribution of Business

The historical experience reflects the actual distribution of insureds during the experience period. The current distribution of business as of December 31, 2022 was used to project future experience. Exhibit 2 contains the distribution of the inforce insureds by key demographic and benefit characteristics.

17. Claim Liability and Reserves

Active life reserves have not been used in this rate increase analysis. Claim reserves as of December 31, 2022 have been discounted to the incurral date of each respective claim and included in historical incurred claims. Incurred but not reported reserve ("IBNR") balances and terminated but not reported reserve ("TBNR") balances as of December 31, 2022 have been allocated to a calendar year of incurral and included in historical incurred claims.

18. Trend Assumptions

As this is not medical insurance, explicit medical cost trends have not been included in the projections.

19. Experience – Past and Future

Earned premiums and incurred claims, projected through 2082 are developed from a first-principles actuarial model representing actual contracts in-force as of December 31, 2022. The assumptions described in Section 5 are used to project earned premiums and incurred claims.

Waived premiums are not included as premiums nor claims in either the actual historical or the projected future experience.

Historical results reflect earned premium by calendar year with claims captured by incurral year. That is, incurred claims for a calendar year represent all payments through December 31, 2022 for a claim incurred in a particular calendar year plus any claim reserve held as of December 31, 2022. Incurred claims also include IBNR and TBNR held as of December 31, 2022.

Exhibit 3 presents nationwide experience as described in Section 21 for all forms affected by this rate increase to ensure maximum credibility. Although we believe State-only data is not credible on its own, we are including State-specific experience through December 31, 2022 for reference in Exhibit 4.

Annual loss ratios are calculated, with and without interest, as incurred claims divided by earned premiums.

A lifetime loss ratio as of December 31, 2022 is calculated as the sum of accumulated past experience and discounted future expectations using the nationwide inforce count-weighted average maximum statutory valuation interest rate for contract reserves.

20. History of Rate Adjustments

See Exhibit 1 for a history of prior rate adjustments in your state.

21. Ensuring No Cross-Subsidization Between States

We have ensured no state's rate increase approvals will subsidize other states' experience. Rate increase requests will vary by state, but only to reflect the timing and amount of prior rate increases approved by that state. This is accomplished by first backing-out all prior rate increases from our nationwide premium data. We then reintroduce prior rate increases with the amount and timing based on your state's prior approvals as referenced in Section 20. The current proposed rate increase(s) are then determined.

Although some states may have capped our previous inforce rate increase filings, it is the intention of CCC's management that subsequent filings will be submitted at a later date until an actuarially equivalent amount is achieved.

22. Requested Rate Increase and Demonstration of Satisfaction of Requirements

CCC is requesting a rate increase on the policy forms included in this filing, to be implemented over three years. The rate increase varies by benefit period and AIB rider as follows:

Benefit Feature	Policies with AIB Rider	Policies without AIB Rider
Unlimited Lifetime Max Benefits	263.3%	0.0%
Non-Lifetime Max Benefits	40.6%	0.0%

Corresponding rate schedules reflecting the increase are included with this filing. Although this request is less than CCC can justify, we are limiting our rate increase request at this time. CCC will continue to monitor the experience of this block and take appropriate actions when necessary.

Upon approval of this rate revision, CCC will communicate to insureds their options to reduce the impact of the rate increase. These options may include increasing the elimination period, reducing the lifetime maximum, reducing the daily benefit or eliminating optional riders.

Because the requested rate increase applies to policies with an AIB rider, insureds with an increase and AIB rider who choose to drop it (i.e., Freeze and Drop) will:

- Not be subject to this AIB rate increase;
- Retain their inflated benefits as of the effective date of the coverage change; and
- Be charged an original issue age premium based on the original non-inflated benefits.

Available options will depend upon the insured's current coverage levels, benefit options available under their specific policy form, and any statutory minimum benefit levels in your state.

In addition, the Company is making an option available for all insureds in conjunction with this rate increase. This option provides an Increased Contingent Non-Forfeiture ("ICNF") benefit upon lapse. If this benefit is elected by the insured, the insured will not have to pay prospective premium, and their remaining benefit pool amount will equate to 150% of lifetime premiums paid, capped at current remaining lifetime benefits.

If a policy lapses due to non-payment of premiums without notifying the Company of the insured's intention to elect any of the above options, the insured's coverage will default to a standard 100% CNF benefit.

Note that the actual rates implemented may vary slightly from those filed due to implementation rounding algorithms.

Satisfaction of minimum required loss ratio requirements is demonstrated in Exhibit 1. This approach shows that with the requested rate increase, the expected lifetime loss ratio exceeds the minimum loss ratio requirement.

Exhibit 5 included with this memorandum provides a demonstration that the requested rate increase meets the 58/85 test required by your state's rate stability regulation.

The historical and future projected incurred claims in the 58/85 test were increased by 10% from the best estimate projections to reflect assumptions that include moderately adverse conditions (equates to a 10% deterioration in the lifetime loss ratio). Present and accumulated values in the demonstration are determined at the average maximum valuation interest rate for contract reserves over the issue period.

Because The Company is limiting the rate increase request, we cannot certify that the rates with the full requested rate increase will be sufficient under moderately adverse conditions.

23. Proposed Effective Date

The rate increase will apply to policies on their next premium due date following a notification period at least as long as required by your state following approval. No insured will receive more than one increase in a 12-month period.

24. Actuarial Certification

I am an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification standards to render this actuarial opinion and am familiar with the filing requirements for long term care insurance premium and rate increases.

This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice ("ASOP"), including, but not limited to, the following:

- ASOP 7, "Analysis of Life, Health, or Property/Casualty Insurer Cash Flows";
- ASOP 8, "Regulatory Filings for Health Benefits, Accident and Health Insurance, and Entities Providing Health Benefits";
- ASOP 18, "Long Term Care Insurance";
- ASOP 23, "Data Quality"; and
- ASOP 41, "Actuarial Communications".

I have relied upon policy and claim information extracts, as of December 31, 2022, which contain a seriatim listing of all insureds covered under CCC Long Term Care insurance contracts. I have also relied upon associated paid premium extracts providing details of payment dates and amounts. I have also relied upon associated paid claim extracts providing details by claim regarding payment dates, service dates, benefit types and payment amounts. This information was provided by CCC's Long Term Care Operations team in partnership with our Third Party Administrator.

I have relied upon statutory reserves as of December 31, 2022, for Claims Reserves, Incurred but Not Reported reserves, and Terminated but Not Reported Reserves, provided by CCC's Long Term Care Finance and Reserving team.

I have relied upon actuarial assumptions developed by CCC's Long Term Care Projections and Experience Studies team, which develops assumptions primarily for asset and reserve adequacy analysis, under the direction of the opining actuary, John Munro, FSA, MAAA, who approved those assumptions in collaboration with other CCC Long Term Care actuaries, including Inforce Management actuaries. These assumptions present the actuary's best judgement, as of December 31, 2022. We have reviewed these assumptions for reasonableness and consistency for use in this filing.

I have reviewed and considered the policy design and benefits, as well as the company's underwriting and claims adjudication processes, when developing the filed rates.

I hereby certify that, to the best of my knowledge and judgement, this rate filing is in compliance with the applicable laws and regulations of your state. In my opinion, the actuarial assumptions are appropriate and the rates are neither excessive nor unfairly discriminatory.

Because the company is limiting the rate increase request we cannot certify that the rates with the full requested rate increase will be sufficient under moderately adverse conditions.

Saira Makhani, ASA, MAAA
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May 29, 2024

Date

25. Exhibit Listing

- Exhibit 1: State Specific Information
- Exhibit 2: Distribution of Inforce Insureds
- Exhibit 3: Nationwide Experience and Projections
- Exhibit 4: State Specific Experience and Projections
- Exhibit 5: Nationwide 58/85 Test