NORTHWESTERN LONG TERM CARE INSURANCE COMPANY

ACTUARIAL MEMORANDUM

Product Name	Policy Form Number	Issue Date Range*
QuietCare RR	RR.LTC.(0798)	August 1998 – March 2002 (*see exhibit 2 for state's range)

CONTENTS

1. Scope & Purpose

This memorandum consists of materials which support the development of new premium rates for the policy series form listed on page 1. The purpose of this memorandum is to demonstrate that the requirements of this State in regards to an inforce rate increase request have been met. This rate filing is not intended to be used for any other purpose.

2. Requested Rate Increase

This rate increase request is a follow-up to a previous rate increase request where the state of Maryland approved a rate increase that was less than what was requested. The SERFF number associate with our previous filing is NWST-130590237 and the state number is 90-2579 LTC (0417) and was originally filed on 10/28/16 and a rate increase was approved on 03/01/17. The previously requested rate increase was the first rate increase ever requested on these policy forms.

We are now requesting the remaining portion of our previous rate increase request. In fact, across most of the rest of the country we have already received approval for the rate increase that was requested previously. Our goal with this follow-up filing is to align the rate increases for policyowners in the state of Maryland with rest of the country to ensure greater equity nationwide.

These guaranteed renewable products include lifetime pay premiums with benefit period offerings of three years, six years and lifetime.

The table below summarizes the previously approved rate increase, the currently requested rate increase and the cumulative increase (assuming that the requested rate increase is approved). The currently requested increase will be effective no sooner than one year after the effective date of the previously approved increase.

Benefit Period	Previously Approved Increase	Currently Requested Increase	Cumulative Increase
3 Year	10%	0%*	10%
6 Year	15%	8.7%	25%
Lifetime	15%	13%	30%

* No further rate increases are being requested for lifetime pay 3 year benefit period policies since the 10% rate increase that had been requested previously was approved.

The overall average rate increase currently being requested is 10.1% and the overall cumulative average rate increase would be 26.2% with the rate increase varying by benefit period as shown in the table above.

The rate increases adhere to the following restrictions:

a. We ensure that the proposed rate increase does not result in premium rates that exceed the rates for new business. To accomplish this, we restricted the premium increase for policies with the 3 year benefit period to grade from 10% for issue ages in the early 70’s to 0% for issue ages 75+. This is demonstrated in the attached premium rate comparison.
b. We ensure that the resulting overall increase in rates satisfies the pre-rate stability rule outlined in the NAIC LTC Model Bulletin ensuring no less than an 80% loss ratio on the rate increase portion, while applying 60% to the current rate schedule. This is demonstrated in Exhibit 1.

c. The lifetime loss ratio after the proposed rate increase is greater than or equal to the lifetime loss ratio targeted in the original filing from this form.

New proposed rate tables for this policy form are included with this filing. The contingent non-forfeiture paid up benefit equal to the sum of premiums paid is being offered to all policyowners impacted by the rate increase whether or not their increase is above the substantial increase triggers.

The number of policyowners and amount of inforce premium, as of October 31, 2017, for your state and nationwide, are displayed in Exhibit 2. The exhibit also shows the average annual premium before and after the proposed rate increase.

3. <u>Reason for Rate Increase Request</u>

A rate increase is necessary at this time due to significantly higher anticipated future and lifetime loss ratios. The higher loss ratios are mainly the result of longer claim continuance with a greater effect on longer benefit periods, combined with lower lapse and mortality rates.

Northwestern Long Term Care Insurance Company (NLTC) has been evaluating this block and updating assumptions based on our experience as well as the LTCi industry experience. The projected lifetime loss ratio based on the assumptions outlined in this memo is worse than original pricing. The combined effect of changing the underlying claim costs and updating the mortality and persistency assumptions resulted in the need for a rate increase. The current premium levels are inadequate and, therefore, NLTC is requesting a rate increase in order to maintain the viability and financial stability of the policy form.

Even though we could justify a higher rate increase, at this time we have decided to request a cumulative 26.2% taking into consideration the impact on our policyowners. If experience does not improve, we may need to request future rate increases.

4. <u>Rate Increase History</u>

This rate increase request is a follow-up to a previous rate increase request where the state of Maryland approved a rate increase that was less than what was requested. The SERFF number associate with our previous filing is NWST-130590237 and the state number is 90-2579 LTC (0417) and was originally filed on 10/28/16 and a rate increase was approved on 03/01/17. The previously requested rate increase was the first rate increase ever requested on these policy forms.

Other than the rate increase mentioned above there have been no other rate increases for this policy form.

5. <u>Benefit Descriptions</u>

This policy provides comprehensive long term care coverage, and reimburses eligible expenses of the insured up to the daily limits of the policy. The product is priced to have level premiums. All premiums are guaranteed renewable. If the policy becomes paid-up, it becomes non-cancellable. The product is available at issue ages 18-79. Premiums are on a sex neutral basis.

The insured chooses a daily limit, benefit period, elimination period, and home and community care coverage percentage. The plan reimburses eligible expenses up to the daily limits once the elimination period is satisfied. The plan continues to reimburse expenses until eligible expenses are no longer incurred or benefits are exhausted.

Care can be provided by licensed health care practitioners in licensed nursing homes, alternate living facilities, the home, and adult day care agencies. Respite care is also covered.

Two indexing options are available. The first option, called the Automatic Benefit Increase option, is a level premium product with the daily limit and the Benefit Account Value remaining indexing at 1%, 2%, 3%, 4%, or 5% per year. The insured chooses the indexing percentage at issue.

The second option, called the Automatic Additional Purchase Benefit, provides a level benefit while the insured does not require LTC benefits. The daily limit and the Benefit Account Value remaining begin indexing at 5% per year if and when the insured is on claim. Also under this option, the insured has the option of purchasing an additional amount of coverage, equal to 5% of the prior year's daily limit, each year while not on claim. This additional coverage also increases the Benefit Account Value. The premiums for the additional coverage are level and are based on the insured's current attained age. The insured can continue to purchase the additional coverage under this option until the insured has refused two of the optional increases in coverage.

All plans include the waiver of premium benefit.

An optional non-forfeiture benefit is also available. This benefit, called Paid-Up Nonforfeiture Benefit, provides paid-up coverage when premium payments stop on or after the third policy anniversary via a smaller Benefit Account Value. Although we are filing for a premium rate increase, the premiums under the non-forfeiture benefit are not changing at this time.

One underwriting class exists for all policies issued. The policy is participating.

6. Renewability

All policy forms listed above are guaranteed renewable.

7. Applicability

This filing is applicable to in force policies only, as this policy form is no longer being sold in your state or nationwide. The premium changes will apply to the base form as well as to all applicable additional benefits, other than the non-forfeiture benefit as described above. The premium change will also apply to future purchase option elections under the Automatic Additional Purchase Benefit. The premium changes will not apply to policies which have already reached paid-up status.

The company remains in the market, and currently sells similar long-term care insurance.

8. Marketing Method

All policy forms listed above were marketed by Northwestern Mutual's (parent company of NLTC) career captive field force.

9. Issue Age Ranges

Issue ages are from 18 to 79.

10. Actuarial Assumptions – Updated

This section includes the current assumptions used to justify the premium rate increase. These assumptions do not include any margin for adverse experience.

A. Morbidity - Updated

Claim costs from Milliman's 2014 edition of the Long Term Care Guidelines were used for morbidity estimates. The Guidelines have been developed in conjunction with professionals in several Milliman offices and reflect actual experience of various carriers, numerous studies of non-insurance data and judgment. The guidelines are a continually evolving rating structure that are modified as more experience becomes available.

The 2014 Milliman Guidelines were tailored to reflect NLTC's underwriting standards and claims administration practices. Milliman develops morbidity selection factors for three levels of underwriting: looser underwriting, average underwriting, and stricter underwriting. Milliman determined after analyzing NLTC's underwriting standards and practices that we fall in the stricter underwriting category. Milliman also came in to look at our claims administration practices to adjust the 2014 Milliman Guidelines in order to be more in line with how we administer long-term care claims.

An internal review of Milliman's underwriting categories was also performed to ensure that we agreed with their assessment based on their underwriting criteria. This review led to the conclusion that the categorization of our underwriting standards as "strict" was appropriate. In addition, our Actuarial and Underwriting Departments continually review and monitor the underwriting criteria of other LTC carriers compared to our own underwriting standards. Based on those reviews we believe that our underwriting criteria is stricter than the average LTC carrier in the industry. The claims administration of our LTC block was brought in-house from a 3rd party administrator some years ago. We made enhancements to the consistency of claims adjudication, and considered these enhancements in determining the appropriateness of the morbidity assumptions used.

Final adjustments were made to morbidity recognizing anticipated morbidity differences due to a review of NLTC's specific product design such as the comprehensive coverage provided, a lifetime elimination period, pooled benefits structure, and a monthly benefit limit (vs. daily benefit limit).

We also reviewed how the 2014 Milliman Guidelines compare to our own limited amount of long-term care claims data and our cash claim payments are in line with the expected basis. Since the 2014 Guidelines provided by Milliman were based on long-term care policies with specific benefits equal to what this policy form offers, our overall morbidity experience to-date, although limited and not credible, does not call into question the validity of the 2014 Milliman Guidelines for this block of business.

No morbidity improvement was assumed in pricing.

B. Expenses

Expenses have not been explicitly projected. It is assumed that the originally filed expense assumptions remain appropriate. Normal renewal commission rates will be applied on any increase in premium.

C. Mortality - Updated

Our mortality assumptions were developed using internal company experience and include underwriting selection factors. Mortality improvement is also assumed through attained age 105.

In comparing the pricing mortality table used to the 1983 Individual Annuitant Mortality (83 IAM) table used for valuation, the pricing ultimate rates are more conservative for the majority of issue ages. However, the biggest difference between the two tables is not the ultimate rates but that the pricing mortality recognizes lower mortality rates on recently underwritten business (mortality selection) and improved mortality over time (mortality improvement). Thus, the pricing mortality is more conservative than the table used for valuation (83 IAM) which does not have selection or improvement.

D. Lapse – Updated

Policy Year	%
1	3.500%
2	4.300%
3	2.900%
4	2.200%
5	1.700%
6	1.500%
7	1.200%
8	1.050%
9	0.900%
10	0.800%
11	0.700%
12	0.600%
13	0.575%
14	0.550%
15	0.525%
16+	0.500%

Lapse Adjustment by Issue Age: The following table of multipliers was used to adjust lapse rates for policies issued at older ages.

Updated Lapse Adjustment by Issue Age			
Policy Year	Issue Ages 18-69	Issue Ages 70-74	Issue Ages 75-79
1	100%	100%	90%
2	100%	100%	75%
3	100%	100%	60%
4	100%	100%	45%
5	100%	100%	30%
6	100%	100%	15%
7	100%	100%	0%
8	100%	100%	0%
9	100%	100%	0%
10	100%	80%	0%
11	100%	60%	0%
12	100%	40%	0%
13	100%	20%	0%
14+	100%	0%	0%

Lapse Adjustment for Paid-Up Nonforfeiture Benefit – These multipliers remain the same as those used for the original pricing.

E. Automatic Additional Purchase Benefit (AAPB) Election Rate

As described in section 5, with the AAPB benefit the insured has the option of purchasing an additional amount of coverage at the insured's current attained age while not on claim. Current AAPB election rate assumptions are outlined below and vary depending on the number of past AAPB refusals.

No Prior Refusals	
Duration	**Election Rate**
1	90%
2-10	95%
11	94%
12	93%
13	92%
14	91%
15+	90%

One Prior Refusals	
Duration Since 1st Refusal	**Election Rate**
1	55%
2	78%
3	82%
4	85%
5	88%
6+	90%

Note that no AAPB assumption is necessary to determine the appropriate premium rates to charge as the attained age rates are set equal to the issue age rates for the same age. Therefore, there was no explicit AAPB assumption made at initial pricing. However, the rate of AAPB elections can affect the loss ratio projections in Exhibit 1 and are therefore documented here.

F. Interest

Discounting and accumulating of earned premiums and incurred claims for the purpose of calculating historical, future anticipated and lifetime loss ratios was performed using a discount rate of 4%. This rate represents the average maximum valuation interest rate for all of the policy forms we are currently requesting a rate increase on (i.e., the RR, RS, and TT series of policy forms).

G. Distribution

Distribution of Business by Issue Age:

Issue Age	Expected Distribution	Actual Distribution
52	5%	36%
57	20%	26%
62	35%	21%
67	25%	12%
72	10%	4%
77	5%	1%
Average Issue Age	64.5	57.2

Distribution of Business by Plan:

Benefit Period (Years)	Expected Distribution	Actual Distribution
3	20%	8%
6	45%	24%
Lifetime	35%	68%
Elimination Period (Weeks)	**Expected Distribution**	**Actual Distribution**
12	60%	89%
25	40%	11%
Home & Community Care %	**Expected Distribution**	**Actual Distribution**
100%	80%	87%
50%	20%	13%

Distribution of Business by Sex:

Sex	Expected Distribution	Actual Distribution
Male	40%	44%
Female	60%	56%

Distribution of Business by Indexing Option:

Indexing Option	Expected Distribution	Actual Distribution
None	60%	20%
Automatic Benefit Increase	5%	9%
Automatic Additional Purchase Benefit	35%	71%

11. Actuarial Assumptions - Original

The initial premium rate schedule was based on the originally filed pricing assumptions which were believed to be appropriate, given company and industry experience available, when the initial rate schedule was developed. The original pricing assumptions for morbidity, voluntary termination rates, and mortality were as follows:

A. Morbidity - Original

The Milliman & Robertson (M&R) Internal Guidelines for Long Term Care Claim Costs were used for morbidity estimates. These Guidelines were developed in conjunction with professionals in several M&R offices during the mid-1990s and reflect actual experience of various carriers at that time, numerous studies of non-insurance data and actuarial judgment. The guidelines were established with a continually evolving rating structure that allow for modifications over time as more experience becomes available.

Underwriting adjustments were applied by policy year to reflect the morbidity anticipated due to underwriting. These factors were based on experience reviewed by M&R for benefit plans similar to NLTC with modifications to reflect the level of underwriting. For the Automatic Additional Purchase Benefit option, composite selection factors were calculated from the factors above recognizing that initial underwriting will wear off over time. Final adjustments were made to morbidity recognizing anticipated morbidity differences due to NLTC specific underwriting and product design.

B. Mortality - Original

1983 Individual Annuitant Mortality

C. Lapse - Original

Policy Year	Lapse Rate
1	4.00%
2	3.60%
3	3.30%
4	3.05%
5	2.90%
6	2.80%
7	2.70%
8	2.60%
9	2.55%
10+	2.50%

Lapse Adjustment for Paid-Up Nonforfeiture Benefit - The following table of multipliers was used to adjust lapse rates for those polices with the Paid-Up Nonforfeiture Benefit (NFB) option:

Policy Year	Lapse Adjustment Multiplier for NFB
1	50%
2	0%
3	200%
4	170%
5+	110%

12. Underwriting

Medical underwriting was required for individual policies issued under this policy form and varied by issue age. LTC underwriting takes into account conditions or combinations of medical conditions that are likely to result in an impending need for services. There was one standard underwriting class for these policy forms.

13. Premium Classes

There is only one Standard premium class for these policy forms. No underwriting discounts are available.

Premiums are unisex and payable for life, except if the policy becomes paid up as described in Section 5 above. The premiums may vary according to one or more of the following policy and policyholder attributes: issue age, benefit level, benefit period, elimination period, inflation option, premium mode, home and community care coverage percentage, marital status, and additional benefits.

A spousal discount of 15% is applied if both individuals in a marriage or companion relationship have applied for a policy and are insurable.

A multi-life discount of 5% is also applied where policies were marketed to three or more lives of an employer/employee group or ten or more lives of an association group. The discount was available to members and retirees of these groups, as well as their parents, spouses, and spouses' parents. The multi-life discount is not a reflection of lower expected morbidity for this group, but rather the fact that commissions are roughly 5% less for these multi-life sales and we wanted to reflect that savings in our policyowners' premiums.

14. Reserve Basis

A. Base Plans

Statutory Active Life Reserves are based on the claim costs developed for this plan (with claim costs for level premium benefit indexing policies updated to be consistent with the subsequent series), which reflect a margin for moderately adverse experience. A one-year preliminary term method with 1983 Individual Annuitant Mortality (IAM) and 4.0% interest is used. Lapse rates are not included in the reserve calculations.

Disabled life reserves use the current claim cost basis used for pricing new business. This is currently the 2014 Milliman guidelines. A 4.5% interest rate is used for claims incurred prior to 2006, a 4.0% interest rate for claims incurred 2006-2012, and a 3.5% interest rate for claims incurred 2013 and later. Reserves are grossed up for claims administration expenses.

B. Paid-Up Nonforfeiture Benefit

Paid-Up Nonforfeiture Benefit Reserves use the same assumptions as the base plan except where noted below. Active life reserves are equal to:

a. The greater of:

1. The LTC active life reserve, and
2. The lapse benefit

plus

b. The Paid-Up Nonforfeiture Benefit Reserve

where:

The LTC active life reserve is consistent with the base policy.

The lapse benefit is equal to the present value of future claims for an insured if the policy is lapsed in the following year.

The Paid-Up Nonforfeiture Benefit Reserve is equal to the present value of future claims for all insureds currently in paid-up status.

C. Additional Actuarial Reserves

The company focuses on asset adequacy testing for its LTC block overall, rather than on premium deficiency reserves for any particular series. Additional actuarial reserves due to asset adequacy testing have been held since 2012, and as of December 31, 2016, $265 million was held for the LTC product line.

Actuarial Certification

I, Gregory Gurlik, am an Actuary and an officer of the Northwestern Long Term Care Insurance Company and am a member in good standing of the American Academy of Actuaries. I wrote the Actuarial Memorandum for the rate increase filing for form RR.LTC.(0798). The assumptions used as stated in this memorandum are reasonable and realistic for this product. To the best of my knowledge and judgment, this filing complies with the laws and regulations of your state and the benefits are reasonable in relation to the premiums charged.

Gregory Gurlik

Actuary

April 18, 2018

Date