Re: Group long-term policy G.LTC1697 (including G.LTC5398, G.LTC5498 in Maryland) Issued by Metropolitan Life Insurance Company (MetLife)

Attached is the filing for the captioned forms. This letter provides an overview of the filing and notes on some of the content. After a careful review of earlier filings, we have endeavored to reflect in this filing additional content based on all the questions submitted by your Department. Hopefully, this will make your review easier and more effective.

## Filing Overview

In addition to this Overview, this filing consists of the Actuarial Memorandum and supporting Attachments based on earlier reviews. These documents are outlined and summarized here for your convenience.
\(\left.$$
\begin{array}{|l|l|}\hline \text { Title } & \text { Description } \\
\hline \begin{array}{l}\text { Actuarial Memorandum } \\
\text { Exhibit I }\end{array} & \begin{array}{l}\text { Lifetime Loss Ratio ("LLR") } \\
\bullet \quad \text { Without/with proposed rate increase of } 7.06 \% \\
\bullet \\
\text { Nationwide earned premium and incurred claims } \\
\text { experience }\end{array}
$$ <br>

\hline • Weighted average statutory discount rate 4.49\%\end{array}\right\}\)| LLR without proposed increase - 112.5\% |
| :--- |
| With proposed increase - 110.4\% |


| Attachment 5 | Actual-to-Expected Loss Ratios by Calendar Year <br> Nationwide experience <br> LLR without rate increase $-112.5 \% ; \mathrm{A} / \mathrm{E}-1.56$ |
| :--- | :--- |

## Additional Notes

MetLife requests the rate action based on deviations from anticipated experience outlined in the Actuarial Memorandum and the supporting attachments. Lifetime Loss Ratios exceed all minimum requirements in Maryland as well as the application of rate stability standards even at the full requested rate action. In addition, though Maryland-only experience is not necessarily credible, it is provided in this filing for your information only.

We note that, despite the rate action requested, the experience of the block does not fully return to pricing levels. In general, the rate action addresses primarily future experience and does not seek to recover historical losses. We will continue, of course, to monitor and adjust experience assumptions and reserve the right to update those in the future along with requesting any resulting changes in premium rates.

Thank you for your consideration. I look forward to hearing from you.
Sincerely,


William P. Bigelow, FSA, MAAA
Vice President and Actuary, Metropolitan Life Insurance Company

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> Actuarial Memorandum for AARP Group Policy 

April 16, 2018
This actuarial memorandum pertains to long-term care insurance provided under a group policy issued to AARP (previously known as "American Association of Retired Persons") to cover eligible members and their spouses who meet the eligibility requirements specified in the policy.

## Policy Forms

The premium rate schedule increase for which we are seeking approval will apply to the following certificate forms approved by your Department and that were issued under the group long-term care policy G.LTC1697 (sitused in District of Columbia):

- G.LTC5398
- G.LTC5498


## 1. Purpose of Filing

This actuarial memorandum has been prepared for the purpose of demonstrating that the anticipated loss ratio standard of this product meets the minimum requirements of your state and may not be suitable for other purposes.

## 2. Description of Benefits

There are two options available: the Comprehensive Plan and the Facilities Plan. Both plans pay benefits up to a monthly benefit limit ("MBL") determined by the chosen Nursing Home daily benefit amount multiplied by the number of days in a given month (except for those plans that multiply by 30 days in February). There is no limit to benefits payable on a daily basis, except for Respite Care, which is subject to a daily benefit limit ("DBL").

## Comprehensive Plan

There are five types of benefits covered under the Comprehensive Plan. These benefits are Nursing Home (and In-Patient Hospice care), Assisted Living Facility, Home Care (including Adult Day Care and At-Home Hospice care), Informal Care and Respite Care benefits.
I. Nursing Home Care

The benefit reimburses $100 \%$ of room and board charges in a Nursing Home, up to the MBL for Skilled, Intermediate, and Custodial Care. Also covered under the Nursing Home benefit are Hospice services and Bed reservation charges in a Nursing Home.
II. Assisted Living Facility Care

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

## April 16, 2018

The benefit reimburses 100\% of room and board charges in an Assisted Living Facility, up to the MBL for maintenance or personal care.

## III. Home Care

The benefit will be paid for Home Care services and reimburses $100 \%$ of the charges from licensed providers, up to $50 \%$ or $80 \%$ of the MBL (as chosen by the insured). Covered under the Home Care benefit are services received from a Registered Nurse, Licensed Practical Nurse, Licensed Vocational Nurse, Home Health Aide, Homemaker, Physical, Occupational and Speech Therapist, Adult Day Care Centers, At-Home Hospice care, and Ongoing Care Advisory Services.
IV. Informal Home Care

The benefit will be paid for Informal Home Care Services provided from a family member or an unlicensed, private provider and reimburses $100 \%$ of the charges from informal caregivers, up to $50 \%$ of the Home Care monthly benefit limit (therefore, either $25 \%$ or $40 \%$ of the MBL).
V. Respite Care

The benefit will be paid for Respite Care Services provided at home or in a Nursing Home or Assisted Living Facility and reimburses 100\% of the charges from licensed providers, up to a daily limit that varies according to the type of service received. Respite Care Benefits are limited to 21 days per calendar year.

## Facilities Plan

There are three types of benefits covered under the Facilities Plan. These benefits are Nursing Home (and In-Patient Hospice care), Assisted Living Facility and Respite Care benefits.
I. Nursing Home Care

The benefit reimburses $100 \%$ of room and board charges in a Nursing Home, up to the MBL for Skilled, Intermediate, and Custodial Care. Also covered under the Nursing Home benefit are Hospice services and Bed reservation charges in a Nursing Home.
II. Assisted Living Facility Care

The benefit reimburses 100\% of room and board charges in an Assisted Living Facility, up to the MBL for maintenance or personal care.

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

April 16, 2018

## III. Respite Care

The benefit will be paid for Respite Care Services provided in a Nursing Home or Assisted Living Facility and reimburses $100 \%$ of the charges from licensed providers, up to a daily limit that varies according to the type of service received. Respite Care Benefits are limited to 21 days per calendar year.

## 3. Renewability

These policy forms are guaranteed renewable for life.

## 4. Applicability

This filing is applicable to the group long-term care insurance certificates shown on the first page issued to AARP from June 1, 2000 to January 22, 2007 with a group policy situs within District of Columbia. No in-force premium rate schedule increase has been previously implemented for these forms.

We will only implement a premium rate schedule increase for certificates issued to residents of your state after we have received approval from your Department. We will implement the amount of the increase approved by your Department irrespective of the amount of the increase approved by the District of Columbia (where the long-term care insurance policy issued to AARP was sitused). These policy forms are no longer being marketed to AARP members and spouses.
5. Actuarial Assumptions
a. Expected Claim Costs are the product of attained age frequency rates and continuance curves, adjusted by utilization factors and underwriting selection factors based on actual experience through June 30, 2016.
b. Voluntary Termination Rates vary by duration as developed from actual experience through June 30, 2016 and are shown in the following table:

Voluntary Termination Rates

| Policy Duration | Lapse Rate |
| :---: | :---: |
| 1 | $5.50 \%$ |
| 2 | $3.50 \%$ |
| 3 | $2.50 \%$ |
| 4 | $2.00 \%$ |
| 5 | $1.50 \%$ |
| 6 | $1.25 \%$ |
| $7+$ | $1.00 \%$ |

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

April 16, 2018
In the year of rate increase implementation, it is assumed that an additional $1.1 \%$ of policies lapse and there is $0.3 \%$ net reduction to premiums and benefits due to benefit downgrades. There is no adverse selection assumed due to the additional lapse rates.
c. Mortality $88 \%$ of Annuity 2000 Basic Table with selection consistent with experience.
d. Expenses Expenses have not been explicitly projected. It is assumed that the originally filed expense assumptions remain appropriate.

The above assumptions are based on actual inforce experience of MetLife and are deemed reasonable for the group policy form, including certificate forms issued under such group policy. In establishing the assumptions described in this section, the policy design, underwriting, and claims adjudication practices for the above-referenced policy forms were taken into consideration.

The assumptions described above were developed from the actual historical experience on these forms and supplemented, as needed, based on the experience of other forms. The projections contained in this actuarial memorandum are based on the best estimate assumptions, as described above, except the projections include a margin for moderately adverse experience equal to $5 \%$ of projected future incurred claims.

## 6. Marketing Method

These policy forms were issued to provide coverage to eligible AARP members and spouses. The primary method of marketing was direct mail.

## 7. Underwriting Description

Certain health information was required of applicants at the time of enrollment, including answering questions on the enrollment form regarding medical history, supplemented by contacting health care providers for medical records, as well as telephone and face-to-face interviews as needed.

## 8. Premiums

Premium rates varied based upon the age of the insured at issue and the particular benefit variations selected. If two or more members of the same household purchased coverage, a household discount was applied. The monthly EFT Premium was equal to the monthly premium less $\$ 2$.

## 9. Issue Age Range

The issue age is 18 and over.

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

## April 16, 2018

## 10. Area Factors

Area factors are not used for this product.

## 11. Reserves

Active life reserves have not been used in this rate increase analysis. Claim reserves as of December 31, 2016 have been discounted to the incurral date of each respective claim and included in historical incurred claims. Incurred but not reported reserve balances as of December 31, 2016 have been allocated to a calendar year of incurral and included in historical incurred claims.

## 12. Trend Assumptions

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

## 13. Past and Future Policy Experience

Nationwide experience and specific experience for those certificates issued in Maryland are shown in Exhibit I and Attachment 1, respectively.

Historical experience is shown by claim incurral year. Claim payments and reserves were discounted to the mid-point of the year of incurral at the weighted average maximum valuation interest rate for contract reserves which is $4.49 \%$. Incurred but not reported reserves were allocated based on a historical analysis of claim development pattern.

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

A lifetime loss ratio as of December 31, 2016 is calculated as the sum of accumulated past experience and discounted future experience where accumulation and discounting occur at the weighted average maximum valuation interest rate for contract reserves, which is $4.49 \%$.

## 14. Projected Earned Premiums and Incurred Claims

Earned premiums for projection years 2017 through 2097 are developed by multiplying each prior period's earned premium (starting with December 31, 2016 actual earned premium) by a persistency factor. For a year in which the rate increase is effective, the earned premium prior to the increase is multiplied by 1 plus the rate increase percent and an effectiveness factor.

Incurred claims for each projection year combine the impact of incidence rates, claim continuance rates and utilization factors by the policy benefits on a seriatim basis.

# METROPOLITAN LIFE INSURANCE COMPANY 

New York, NY<br>\section*{Actuarial Memorandum for AARP Group Policy}

April 16, 2018
Present and accumulated values in the lifetime projections in Exhibit I and II are determined at the average maximum valuation interest rate for contract reserves applicable to LTC business issued in the years in which the applicable business of this filing were issued. The maximum valuation interest rate averages $4.49 \%$.

The assumptions used in Exhibit I and II projections are developed from the company's LTC insurance experience, plus a margin for moderately adverse experience.

Projections in Exhibit II provide a demonstration that the sum of the accumulated value of incurred claims without the inclusion of active life reserves, and the present value of future projected incurred claims, without the inclusion of active life reserves, will not be less than the sum of the following:

1. Accumulated value of the initial earned premium times $58 \%$;
2. $85 \%$ of the accumulated value of prior premium rate schedule increases;
3. Present value of future projected initial earned premium times $58 \%$; and
4. $85 \%$ of the present value of future projected premium in excess of the projected initial earned premium.

## 15. History of Previous Inforce Rate Increases

Previously, a total premium rate increase of $15 \%$ was authorized by your Department on October 10, 2017 with an implementation date of January 1, 2018.

The experience and projections in Exhibit I have been restated to reflect a rate level similar to that authorized in Maryland on a nationwide basis.

## 16. Requested Rate Increase

The company is requesting a rate increase of $7.06 \%$ for the policy forms listed above. Corresponding rate tables reflecting the $7.06 \%$ rate increase are included with this filing. Please note that, any authorized premium rate increase will not become effective for any insured until that insured's prior rate increase has been effective for at least one (1) year. Please note also that the actual rates implemented may vary slightly from those filed due to implementation rounding algorithms.

## 17. Analysis Performed

The initial premium schedule was based on pricing assumptions believed to be appropriate, given the information available at the time the initial rate schedule was developed. The original pricing assumptions for claim costs, voluntary termination rates, and mortality were as follows:
a. Incidence and continuance rates for nursing home care and home health care rates were based on studies from the 1985 National Nursing Home Survey and 1982-84 National Long Term Care

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

## April 16, 2018

Survey, respectively, with modifications to incorporate experience of other long-term care business that MetLife issued or administered, as well as to incorporate industry expectations.
b. Voluntary termination rates by duration were assumed to be $11 \%$ in year one, grading down to $4.5 \%$ in year ten and thereafter.
c. Mortality was based on the 1983 Group Annuity Mortality Table, adjusted to remove loading. These rates vary by age and sex.

As part of the inforce management of the business, MetLife monitors the performance of the business by completing periodic analyses of lapse rates, mortality rates, claim incidence rates, claim continuance rates and claim utilization rates. The findings from these analyses were used to determine the current experience assumptions on a best estimate basis. A margin for moderately adverse experience equal to $5 \%$ of projected future incurred claims was added to the best estimate assumptions. A model of this business was developed for use in the cash flow testing that is part of the company's annual statutory reporting requirements. Using this model, a future projection of these policies under the new moderately adverse assumptions was performed and the projected lifetime loss ratio for these policies was determined. For these policies, the past experience and future projections based on current moderately adverse assumptions combine to a resulting loss ratio that exceeds both original pricing expectations and state minimum requirements.

The experience analysis, management's view of when a change to the original rate schedule may be considered and the seriatim inforce and claim data used in developing the projections in Exhibit I and II have been relied upon by the actuary in the development of this memorandum.

## 18. Loss Ratio Requirement Compliance Demonstration

Projected experience assuming the increase is implemented is shown in Exhibit I and II. As shown in these exhibits, the expected lifetime loss ratios, with and without the requested rate increase, exceed the minimum loss ratio requirement.

## 19. Average Annual Premium

The average September 30, 2017 annualized premium for all premium-paying certificate holders before and after the current requested increase are:

Before any increase (previous rate increase not yet effective): \$1,643
After implementation of previous rate increase (described in Section 15): \$1,890
After implementation of additional rate increase (requested in this filing): \$2,023

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

April 16, 2018

## 20. Proposed Effective Date

The rate increase will apply to certificate holders on the anniversary of their original coverage effective date, following at least a 60-day notification period after the increase is approved.
21. Nationwide Distribution of Business as of September 30, 2017 (based on premium-paying certificates inforce count)

By Issue Age:

| Issue Age | Percent |
| :---: | :---: |
| $<45$ | $0 \%$ |
| $45-49$ | $1 \%$ |
| $50-54$ | $17 \%$ |
| $55-59$ | $24 \%$ |
| $60-64$ | $27 \%$ |
| $65-69$ | $20 \%$ |
| $70-74$ | $9 \%$ |
| $75+$ | $2 \%$ |
| Total | $100 \%$ |

By Benefit Period:

| Benefit Period | Percent |
| :---: | :---: |
| 4 Year | $53 \%$ |
| Unlimited | $47 \%$ |
| Total | $100 \%$ |

By Inflation Option:

| Inflation | Percent |
| :---: | :---: |
| Optional | $89 \%$ |
| Auto 5\% Compound | $11 \%$ |
| Total | $100 \%$ |

## METROPOLITAN LIFE INSURANCE COMPANY

New York, NY

## Actuarial Memorandum for AARP Group Policy

April 16, 2018
By Home Care Percentage:

| Home Care \% | Percent |
| :---: | :---: |
| $0 \%$ (FC Only) | $22 \%$ |
| $50 \%$ | $67 \%$ |
| $80 \%$ | $11 \%$ |
| Total | $100 \%$ |

By Elimination Period:

| Days | Percent |
| :---: | :---: |
| 20 | N/A |
| 30 | $100 \%$ |
| 45 | N/A |
| 60 | N/A |
| 90 | N/A |
| Total | $100 \%$ |

By Gender:

| Gender | Percent |
| :---: | :---: |
| Female | $62 \%$ |
| Male | $38 \%$ |
| Total | $100 \%$ |

## 22. Number of Insured Lives

As of September 30, 2017, the number of premium-paying insured lives inforce and their premiums that will be affected by this increase are:

|  | Issued Before Rate |  | Issued On or After Rate Stability <br> Regulation Effective Date |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Stability Regulation Effective Date <br> Number of <br> Insured Lives | 2017 <br> Annualized Premium | Number of <br> Insured Lives | Annualized Premium |
| Certificates issued <br> in Maryland <br> Certificates issued <br> nationwide | 544 | $\$ 1,019,749$ | 703 | $\$ 1,151,505$ |

# METROPOLITAN LIFE INSURANCE COMPANY 

# New York, NY <br> <br> Actuarial Memorandum for AARP Group Policy 

 <br> <br> Actuarial Memorandum for AARP Group Policy}

April 16, 2018

## 23. Actuarial Certification

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries, and I meet the Academy's qualification standards for preparing health rate filings and to render the actuarial opinion contained herein.

This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice, including ASOP No. 8.

I hereby certify that, to the best of my knowledge and judgment, this rate submission is in compliance with the applicable laws and regulations of Maryland.

I further certify that:

- the analysis described in Section 17 of this memorandum was used in determining the need for a rate increase;
- the policy design, underwriting and claims adjudication practices have been reviewed and taken into consideration in this rate increase request;
- the actuarial assumptions used are appropriate and the gross premiums bear reasonable relationship to the benefits; and
- the relationship between renewal premium rate schedules and new business premium rate schedules is not applicable because MetLife is no longer issuing new business on these policy forms.


William P. Bigelow, FSA, MAAA
Vice President and Actuary, Metropolitan Life Insurance Company

Exhibit 1


|  |  | o Demonstration |  |  |  |  |  |  | Factors Derived from Projected Values for llustrative Purroses only |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Calendar | unt interest |  |  | Life | Interest |  |  | $$ | BenefitDowngrade | Persistency Factors |  |  |  | $\begin{aligned} & \text { Calendar Year } \\ & \text { Effective } \\ & \text { Int Rate } \end{aligned}$ | $\begin{aligned} & \text { Mid-Year } \\ & \text { Disc / Accum } \\ & \text { Factor } \end{aligned}$ |
|  | Year | Premium | Claims | Ratio | Years | Premium | Claims | Ratio |  |  | Lapse \& Moratily | Shock Lapse | Persistency | Persistency |  |  |
| HistoricalExperience |  | ${ }^{35,397}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1998 | 2,709,668 | 68,199 | 2.5\% | 3,784 | 6,108,632 | 153,746 | 2.5\% |  |  |  |  |  |  | 4.49\% |  |
|  | 1999 2000 | ${ }_{\substack{13,625,366 \\ 33,643,721}}$ | $1,225,619$ $3,790,281$ | ${ }^{9.0 \% \%}$ | ${ }_{\substack{17,055 \\ 37,513}}$ |  | 2,644,239 $7,825,397$ | - $9.0 \%$ |  |  |  |  |  |  | ${ }^{4.499 \%}$ | 2.1575 <br> 2.0647 <br> 1 |
|  | 2001 | 56,03, 021 | 9,657,914 | 17.2\% | 53,930 | 110,731,379 | 19,083,741 | 17.2\% |  |  |  |  |  |  | 4.49\% | ${ }^{2} .9760$ |
|  | 2002 | 73,044,202 | 15,54,035 | ${ }^{21.3 \% \%}$ | ${ }_{65,678}^{65}$ | 138,128,509 | 29,431,090 | ${ }^{21.3 \%}$ |  |  |  |  |  |  | 4.499\% | 1.8910 18097 1 |
|  | 2003 | 93,277,591 | ${ }^{21,322,895}$ | ${ }^{22.29 \%}$ | ${ }^{81,214}$ | 1688,807,720 | ${ }^{38,588,789}$ | 22.9\% |  |  |  |  |  |  | 4.4.499\% | 1.8097 |
|  | 2004 | 110,408,819 | 27,799,450 | ${ }^{25.2 \%}$ | ${ }^{90,841}$ | 191,221,252 | 48,112,291 | ${ }^{25.2 \%}$ |  |  |  |  |  |  | ${ }^{4.49 \%}$ | 1.7319 |
|  | 2005 | ${ }^{120.428 .110}$ | 31,160,448 | ${ }_{\text {cher }}^{25.9 \%}$ | 92,413 | 199,67, ${ }^{\text {1 }}$ | - | cose |  |  |  |  |  |  | 4.4.49\% | 1.6575 <br> 1.5852 <br>  |
|  | ${ }_{2007}^{2006}$ | ${ }^{1122,083,72,374}$ |  | ${ }^{37.69 \%}$ |  | 193,652,621 $186,80,915$ |  | 㐌37.6\% |  |  |  |  |  |  | ${ }^{4.499 \%}$ | 1.5682 <br> 1.5180 |
|  | 2008 | 122,264,479 | 56,172,030 | 45.9\% | 87,60 | 177,624,280 | 81,00,0,011 | 45.9\% |  |  |  |  |  |  | 4.49\% | ${ }^{1.45228}$ |
|  | ${ }_{2010}^{2009}$ | 12,786,650 110956779 | $57,720,098$ 65750,657 | $\underset{\substack{47.8 \% \\ 551 \%}}{ }$ | ${ }_{\substack{86,125 \\ 880,018}}$ | 16,7,933,999 158.81226 | - | $47.8 \%$ <br> $55.1 \%$ |  |  |  |  |  |  | $4.499 \%$ <br> $4.49 \%$ | 1.1393 1.3306 1 |
|  | ${ }_{2011}^{2010}$ | ${ }^{1116,683,512}$ | ${ }^{\text {7 }} 77,040,236$ | 66.0\% | ${ }_{\substack{84,018 \\ 81,902}}^{81,98}$ |  | ${ }^{87,45,5673}$ | 55.10\% |  |  |  |  |  |  | ${ }^{4.49 \%}$ | ${ }_{1.2734}^{1.336}$ |
|  | 2012 | 115,256,465 | 90,911,526 | 78.9\% | 79,975 | 140,454,921 | 110,787,461 | 78.9\% |  |  |  |  |  |  | 4.499\% | ${ }_{1.2186}^{1.28}$ |
|  | 2013 | 112,710,414 | 89,60,566 | 79.5\% | 77,747 | 131,447,737 | 104,496,037 | 79.5\% |  |  |  |  |  |  | 4.49\%\% | ${ }_{\substack{1.11662}}^{1.1262}$ |
|  | ${ }_{2015}^{2014}$ | 110,772,886 107,96,700 | 91, 1414,332 $100,79,024$ |  | 7,7522 <br> 73,130 | 123,644,577 $115,316,02$ | 102,474,771 $107,57,760$ |  |  |  |  |  |  |  | ${ }_{4.49 \%}^{4.499 \%}$ | ${ }_{1.0681}^{1.161}$ |
|  | 2016 | 104,986,351 | ${ }_{123,555.259}$ | ${ }_{117.7 \%}$ | 70,753 | 107, 318, 387 | 126,299,762 | ${ }^{117.7 \%}$ |  |  |  |  |  |  | 4.49\% |  |
| $\begin{array}{\|l\|l\|} \hline \begin{array}{l} \text { Proijected } \\ \text { Experienere } \end{array} \\ \text { Expere } \end{array}$ | 2017 | 105,444,124 | 123,649,539 | 117.3\% | ${ }^{67,884}$ | 103,152,815 | 120,962,626 | ${ }^{117.3 \%}$ | 1.0000 | N/ | ${ }^{0.0405}$ | N/ | 0.959 | 1.000 | 4.49\% | ${ }^{0.9773}$ |
|  | 2018 | 107,380,488 | 133,862,223 | 124.7\% | 64,957 | 100,531,343 | 125,323,971 | 124.7\% | ${ }^{1.0813}$ |  | 0.0431 | N/ | 0.957 |  | 4.49\% | 9362 |
|  | 2019 | 107,156,588 | 143,990,333 | 134.4\% | ${ }^{61,977}$ | 96,09, 100 | 129,011,034 | 134.46 | ${ }^{1.1500}$ | NA | 0.0459 | N/ | 0.954 | 0.938 | 4.49\% | 0.8960 |
|  | 2020 | 100,133,997 | 153,668,171 | ${ }^{153.5 \%}$ | ${ }^{58,953}$ | ${ }^{85,860,316}$ | 131,763,418 | ${ }^{153.55 \%}$ | ${ }^{1.1500}$ | N/A | ${ }^{0.0488}$ | N/A | 0.951 | 0.934 | ${ }^{4.49 \%}$ | 8575 |
|  | 2021 | ${ }^{93,1776,654}$ | 162,786,934 | 174.79\% | 55,900 | 76,460,204 | 133,581,981 | 174.70\% | ${ }^{1.1550}$ | NA | ${ }^{0.0518}$ | N/ | ${ }^{0.998}$ | ${ }^{0.931}$ | ${ }^{4.49 \%}$ | 8206 |
|  | 2022 | ${ }^{86,320,273}$ | 171,430,654 | 198.6\% | ${ }_{5}^{52,823}$ | 67,788,995 | 134,627,639 | ${ }^{198.65 \%}$ | 1.1500 | N/A | ${ }^{0.0550}$ | N/A | ${ }^{0.945}$ | ${ }^{0.926}$ | ${ }^{4.49 \%}$ | ${ }^{0.7853}$ |
|  | ${ }^{2023}$ | 79,594,085 | 179,388,773 | ${ }^{225.53 \%}$ | ${ }^{49,737}$ | ${ }_{\text {che }}^{59,819,661}$ | 134,791, 208 | ${ }^{225.53 \%}$ | ${ }^{1.1500}$ | N/A | ${ }^{0.0584}$ | N/A | ${ }^{0.942}$ | ${ }^{0.922}$ | ${ }^{4.49 \%}$ | ${ }^{0.7516}$ |
|  | ${ }_{2024}^{2024}$ | ${ }^{73,029,992}$ | 186,285,776 | ${ }^{255.19 \%}$ | 46,566 | 52,526,905 | 133,986,258 | ${ }^{255.19}$ | 1.1500 | N/A | ${ }^{0.0620}$ | N/A | ${ }^{0.938}$ | ${ }^{0.918}$ | ${ }^{4.49 \% \%}$ | ${ }^{0.7193}$ |
|  | 2025 | ${ }^{66,668,022}$ | 192.076.953 | ${ }^{288.12 \%}$ | ${ }^{43,593}$ | ${ }^{45,889,734}$ | ${ }^{1323,212,717}$ | 288.19\% | ${ }^{1.1500}$ | NA | ${ }^{0.06566}$ | N/A | ${ }^{0.934}$ | ${ }^{0.913}$ | 4.49\%\% | ${ }^{0.6883}$ |
|  | ${ }_{2027}^{2026}$ |  | 196, 3 H88,481 | 324.60\% | ${ }_{\substack{40,562}}^{37580}$ | 39,88,047 | ${ }^{129,468,160}$ |  | 1.1500 | NA | ${ }_{0}^{0.00735}$ | N/ | ${ }^{0.933}$ | -0.908 <br> 0.903 |  | -0.6384 |
|  | 2028 | 54,62,209 | 201.50,600 | ${ }^{3095090}$ | ${ }_{3}^{34.650}$ |  | ${ }^{1251213272784}$ | ${ }^{305096060}$ | 1.15150 | NA | ${ }^{0.0735}$ | N/A | ${ }_{0}^{0.922}$ | ${ }_{0}^{0.993}$ | ${ }_{4}^{4.49 \%}$ | ${ }_{0}^{0.6033}$ |
|  | 2029 | 43,867,615 | 201,391,315 | 459.1\% | ${ }_{31,812}$ | 25,32,6,626 | 1116,280,889 | 459.1\% | 1.1500 |  | 0.0821 | N/A | 0.918 | ${ }_{0.993}$ | 4.49\% | 0.5774 |
|  | 2030 | 38,94,561 | 200,138,597 | 513.9\% | 29,054 | 21,520,588 | 110,590,002 | 513.9\% | ${ }^{1.1500}$ | NA | ${ }^{0.0867}$ | N/A | 0.913 | ${ }^{0.888}$ | 4.49\% | ${ }^{0.5526}$ |
|  | 2031 | 34,374,639 | 197,434,009 | 574.4\% | 26,398 | 18,17,769 | 104,405,743 | 574.4\% | ${ }^{1.1500}$ | NA | 14 | N/A | 0.909 | 0.883 | 4.49\% | ${ }^{0.5288}$ |
|  | 2032 | 30,148,916 | 193,236,730 | 640.9\% | 23,855 | 15,257,787 | 97,793,392 | ${ }^{640.9 \%}$ | ${ }^{1.1500}$ | NA | ${ }^{0.0963}$ | N/A | 0.904 |  | 4.49\% | 5061 |
|  | 2033 | 26,270,748 | 187,553,769 | 713.9\% | 21,436 | 12,723,590 | 90,837,053 | ${ }^{713.9 \%}$ | 1.1500 | NA | 0.1014 | N/A | ${ }^{0.899}$ | ${ }^{0.871}$ | 4.49\% | ${ }^{0.4843}$ |
|  | 2034 | 22,737,159 | 180,581,026 | 794.2\% | 19,148 | 10,538,792 | 83,70, 252 | ${ }^{794.2 \%}$ | ${ }^{1.1500}$ | NA | ${ }^{0.1067}$ | N/A | ${ }^{0.893}$ |  | 4.49\% | ${ }^{0.4635}$ |
|  | 2035 | 19,541,195 | 172,375,099 | 882.1\% | 17,000 | ${ }^{8,668,085}$ | 76,462,164 | ${ }^{882.1 \%}$ | ${ }^{1.1500}$ | NA | ${ }^{0.1122}$ | N/A | 0.888 |  | 4.49\% | ${ }^{0.4436}$ |
|  | ${ }^{2036}$ | 16,672,369 | 162,990,872 | 977.6\% | ${ }^{14,997}$ | 7,077,612 | 69,191,501 | 977.60\% | ${ }^{1.1500}$ | NA | ${ }^{0.1179}$ | N/A | ${ }^{0.882}$ | ${ }^{0.853}$ | 4.49\% |  |
|  | 2037 | 14,117,487 | 152,667,237 | 1081.4\% | 13,139 | 5,735,407 | 62,02,993 | 1081.4\% | ${ }^{1.1500}$ | NA | ${ }^{0.1238}$ | N/A | 0.876 | ${ }^{0.847}$ | 4.49\% | ${ }^{0.4063}$ |
|  | 2038 | 11,859,941 | 141,588,614 | 1193.8\% | 11,432 | 4,611,124 | 55,049,403 | ${ }^{1193.8 \%}$ | ${ }^{1.1550}$ | N/A | ${ }^{0.13300}$ | N/A | ${ }^{0.870}$ | ${ }^{0.840}$ | ${ }^{4.49 \%}$ | ${ }^{0.3888}$ |
|  | 2039 | 9,888,239 | 130,002,085 | 1315.5\% | ${ }^{9,873}$ | 3,677,029 | 48,371.773 | ${ }^{1315.5 \%}$ | ${ }^{1.1500}$ | N/A | ${ }^{0.1364}$ | N/A | ${ }^{0.864}$ | ${ }^{0.833}$ | ${ }^{4.499 \%}$ | ${ }^{0.3721}$ |
|  | 2040 | ${ }_{8}^{8,165,405}$ | 118,159,440 | 1447.1\%\% | ${ }_{8}^{8,463}$ | ${ }^{2,907,614}$ | ${ }^{42,07505,329}$ | 1447.19\% | 1.1500 | NA | ${ }^{0} 0.1428$ | N/A | ${ }^{0.857}$ | -0.826 | 4.499\% | ${ }_{0}^{0.3561}$ |
|  | ${ }_{2041}^{2041}$ |  | (106,253,677 | $1588.79 \%$ <br> $17415 \%$ | 7,197 | 2, 279,242 1770514 1 | $36,209,329$ 30833,295 30, | 11781.5\% | 1.1500 | NA | ${ }^{0.1496}$ | N/A | (0.850 | -0.819 | ${ }^{4.499 \%}$ | (o.3261 |
|  | ${ }_{2043}^{2042}$ | ${ }_{4}^{4,364,486}$ | ${ }_{8,2,238,801}^{\text {at, }}$ | 1907.2\% | 5,073 | ${ }_{1,362,211}^{1,241}$ | 25,979,880 | 1907.2\% | ${ }_{1}^{1.5500}$ | NA | ${ }_{0.1643}^{0.193}$ | N/A | ${ }_{0.836}^{0.84}$ |  | 499\% |  |
|  | 2044 | ${ }^{3,474,317}$ | 72,518,338 | 2087.3\% | 4,204 | 1,037,763 | 21,660,904 | 2087.3\% | ${ }^{1.1500}$ | NA | 0.1712 | N/ | 0.829 | 0.796 | 4.49\% | ${ }^{0.2987}$ |
|  | 2045 | 2,737,489 | 62,493,870 | 2282.9\% | 3,451 | ${ }^{782,526}$ | 17,864,200 | ${ }^{2288.9 \%}$ | ${ }^{1.1500}$ |  | ${ }^{0.1791}$ | N/A | ${ }^{0.821}$ |  | 4.49\% |  |
|  | ${ }_{2046}^{2046}$ | ${ }^{2,1344,071}$ | 53,263.058 | ${ }^{24759.8 \% \%}$ | 2,805 | 583,811 | 14,571.010 | ${ }^{2495.89 \%}$ | ${ }^{1.1500}$ | NA | ${ }^{0.1871}$ | N/A | ${ }^{0.813}$ | 0.780 |  | ${ }^{0.2736}$ |
|  | 2047 | ${ }^{1,644,812}$ | 4, 4 4,73,014 | ${ }^{272828.2 \%}$ | ${ }_{\substack{2,256 \\ 1,795}}$ | ${ }^{430,623}$ | 11,74,061 | ${ }^{2728.29 \%}$ |  | NA | 0.1957 | NA |  | .712 |  | ${ }^{0.2618}$ |
|  | 2048 | 1,252,096 | 3,344,197 | 2885.19\% | 1,95 |  | 7,3550, 9 | 2351.4 |  | NA | 0.2045 | NA | 0.796 |  |  |  |
|  | ${ }_{2050}^{2049}$ | ${ }_{700.592}^{942,71}$ |  | ${ }_{3546.1 \%}^{354.01 \%}$ |  | ${ }^{226,099} 1607$ | ¢, | ${ }_{3546.1 \%}^{354.00 \%}$ | 1.1.500 | NA | ${ }_{0}^{0.2215}$ | N/A | ${ }_{0}^{0.779}$ | ${ }_{0}^{0.743}$ | ${ }_{4.49 \%}^{4.499 \%}$ | ¢, |
|  | 2051 | 513,423 | 19,799,719 | 3856.4\% | 844 | 112,752 | 4,348,201 | 3855.4\% | 1.1500 | N/A | 0.2329 | N/A | 0.767 | 0.733 | 4.49\% | ${ }_{0}^{0.2196}$ |
|  | 2052 | 370,389 | 15,511,577 | 4187.9\% | 639 | ${ }^{77,844}$ | 3,260,048 | ${ }^{4187.9 \%}$ | ${ }^{1.1500}$ | NA | ${ }^{0.2429}$ | N/A | ${ }^{0.757}$ | 0.721 | 4.49\% | 0.21102 |
|  | ${ }^{2053}$ | 262,059 | 11,910, 167 | ${ }^{454.89 \%}$ | 474 | 52,709 3,729 | 2,395,539 | ${ }^{4544.89 \%}$ | ${ }^{1.1500}$ | NA | ${ }_{0}^{0.2577}$ | N/A | ${ }^{0.7422}$ | ${ }^{0.7788}$ | ${ }^{4.499 \%}$ | (0.2011 |
|  | 2054 <br> 2055 | 1828,100 <br> 124,196 | ${ }_{\substack{\text { 8, } 5939,3354}}^{\text {6,353 }}$ | ${ }_{5257.3 \%}^{4905.7 \%}$ | 347 <br> 249 <br> 29 | ${ }_{\substack{35.052 \\ \text { 22,878 }}}$ | ${ }_{\text {l }}$ |  |  | NA | ${ }_{0}^{0.2814}$ | N/A | ${ }_{0}^{0.719}$ | -0.682 | ${ }^{4.49 \%}$ | - |
|  | 2056 | ${ }^{82,578}$ | 4,639,410 | 5618.2\% | 174 | 14,558 | 817,900 | 5618.2\% | 1.1500 | N/A | ${ }^{0.3037}$ | N/A | 0.696 | 0.665 |  | ${ }_{0}^{0.1763}$ |
|  | 2057 | 5,324 | 3,212,953 | 6025.4\% | 116 | 8,997 | 542,075 | 6025.4\% | 1.1500 | N/A | ${ }^{0.3308}$ | N/A | 0.669 | 0.646 | 4.49\% |  |
|  | 2058 | 33,466 | 2,153,661 | 6435.4\% | 76 | 5,404 | 347,736 | 6435.4\% | 1.1500 | NA | ${ }^{0.3472}$ | N/ | 0.653 | 0.628 | 4.49\% | 0.1615 |
|  | 2059 | 20,422 | 1,901,754 | 6857.1\% | ${ }^{48}$ | ${ }^{3,159}$ | 216,602 | 6857.1\% | 1.1500 | NA | ${ }^{0.3712}$ | N/A | 0.629 | 0.611 | 4.49\% | 0.1545 |
|  | 2060 | ${ }^{12,149}$ | 886,920 | ${ }^{7300.3 \% \%}$ | ${ }^{29}$ | 1,797 | ${ }_{131.157}^{1327}$ | 730.3\% | ${ }^{1.1500}$ | NA | ${ }^{0.3957}$ | N/A | ${ }^{0.604}$ | 0.554 | ${ }^{4.49 \% \%}$ | ${ }^{0.1479}$ |
|  | ${ }_{2015}^{2062}$ | - | ${ }_{3}^{539,9791}$ | ${ }^{\text {cheren }}$ | ${ }^{16}$ | ${ }_{540}$ | ${ }_{4}^{7,422}$ | ${ }^{7767.79 \%}$ | 1.15500 | NA | - $\begin{aligned} & 0.4348 \\ & 0.4622\end{aligned}$ | N/A | -0.565 | - 0.586 | ${ }^{4.499 \%}$ | ${ }_{0}^{0.1354}$ |
|  | 2063 | ${ }_{2,272}$ | 214,171 | ${ }_{94277.7 \%}$ |  | 294 | 27,760 | ${ }_{9427.7 \%}$ |  | N/A | ${ }_{0} 0.4658$ | N/A | 34 |  | 99\% |  |
|  | 2064 | 1,338 | 133,656 | 10433.9\% | ${ }^{3}$ | 166 | 17.324 | 10433.9\% | 1.1500 | NA | ${ }^{0.3761}$ | N/A | 0.624 | 0.589 | 4.49\% | 0.1240 |
|  | 2065 | ${ }_{825} 82$ | 94,759 | 112922.2\% | 2 | 98 | 11,249 | 11492.2\% | ${ }^{1.1550}$ | N/A | 247 | N/A | ${ }^{0.575}$ | 16 | 9\% | 187 |
|  | ${ }_{2067}^{2066}$ | 327 | 4,7299 | 12965.0\% |  | ${ }^{60}$ | 7,527 | 1259.0\% | 1.1500 | NA | ${ }^{0} 0.3292$ | NA | 0.673 |  |  | ${ }^{0.1136}$ |
|  | 2068 | 222 | ${ }_{34,337}^{44}$ | 15442.6\% | \% | ${ }_{23}^{37}$ | ${ }_{3,573}^{5,54}$ | 15442.6\% | 1.1500 | NA |  | N/A |  |  | ${ }_{4}^{4.499 \%}$ | ${ }_{0}^{0.1041}$ |
|  | 2069 | 143 | 25.178 | 17596.5\% | , | 14 | 2,507 | 17596.5\% | 1.1500 | N/A | NA | N/A | N/A | NA | 9\% | 0.0996 |
|  | 2070 | ${ }^{93}$ | 18,177 | 19571.9\% | $\bigcirc$ | 9 | 1,732 | 19571.9\% | 1.1500 | NA | NA | N/A | NA |  | 4.49\% | ${ }^{0.0953}$ |
|  | 2071 | ${ }_{39}^{59}$ | 13,669 | 2323.8\%\% | $\bigcirc$ | 5 | 1,247 | ${ }^{23233.8 \%}$ | ${ }^{1.1500}$ | NAA | NA | NA | N/A |  | ${ }^{4.499 \%}$ | -0.0912 |
|  | 2073 | ${ }_{24}$ | 7,227 | 30302.0\% |  | 2 | 604 | 30302.0\% | ${ }_{1.1500}$ | N/A | N/A | N/A | N/A | N/A | 4.49\%\% | ${ }_{0}^{0.0835}$ |
|  | 2074 | 15 | 4,952 | 33407.0\% | $\bigcirc$ | 1 | 396 | 33407.0\% | 1.1500 | NA | N/A | N/A | NA | NA | 49\% | 0.0799 |
|  | 2075 | 9 | 3,040 | 33893.4\% |  | 1 | 233 | 33893.4\% | ${ }^{1.1500}$ | NA | N/A | N/A | N/ | NA | .49\% | ${ }^{0.07755}$ |
|  | ${ }^{2077-2097}$ | 5 | 1,623 1.002 | ${ }^{32677.1 \% \%} 4$ |  | 0 | 119 70 |  | 1.1 .1500 1.1500 | N/ $\begin{gathered}\text { NA } \\ \text { NA }\end{gathered}$ | N/ | N/A | N/ ${ }_{\text {NA }}$ | N $\begin{gathered}\text { NA } \\ \text { NA }\end{gathered}$ | 4.4.49\% | 0.0732 0.0721 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Past | ${ }_{1}^{1,2780,884,162}$ | ${ }_{\text {4,7,76, 158, 248 }}$ | ${ }_{36595}^{53.50}$ | ${ }_{\substack{1,341,131 \\ 88029}}$ | ${ }_{\text {2, }}^{\text {2,647, } 50688,788}$ |  | - ${ }_{\text {288.6\% }}$ |  |  |  |  |  |  |  |  |
|  | Lifeime | 3,069,526.,558 | 5.721,438,375 | 186.4\% | 2,221,421 | 3,501,945,677 | 3,940,104,389 | 112.50\% |  |  |  |  |  |  |  |  |



Exhibit1
Lite Insuran


|  |  | Loss Ratio Demonstration |  |  |  |  |  |  | Premiuctors Derived from Projected Values forlliustrativ Purroses Only |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Calendar | It Interest ${ }^{\text {Loss }}$ |  | Loss | Lite | With interest |  |  | $\begin{array}{\|c\|} \hline \text { Premium } \\ \text { Rate Increase } \\ \text { Factor } \\ \hline \end{array}$ | ${ }_{\text {B }}^{\substack{\text { Benefit } \\ \text { Downgrad }}}$ | Policy |  | Policy <br> Persistency | Premium Persistenc | $\begin{array}{c\|} \hline \text { Calendar Year } \\ \text { Effective } \end{array}$ |  |
|  | Year | Premium | Cliams | Ratio | Years | Premium | Cliams | Ratio |  |  | Lapse \& Moratily |  |  |  |  |  |
| Historical Experienc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1998 | 2,709,668 | 68,199 | 2.5\% | 3,784 | 6,108,632 | 153.746 | 2.5\% |  |  |  |  |  |  | 4.49\% |  |
|  | 1999 | ${ }^{13,625,336}$ | ${ }^{1,225,619}$ | 9.0\% | ${ }^{17,805}$ | 29,396,293 | 2,644,239 | 9.0\% |  |  |  |  |  |  | 4.49\% | 2.1575 |
|  | 2000 2001 |  | ${ }_{\substack{3,790,281 \\ 9,657,914}}$ | ${ }_{\text {117.2\% }}^{11.36}$ | 37,513 <br> 53,930 | (69,465,120 $\begin{aligned} & \text { 110,731,379 }\end{aligned}$ | 7, $\begin{aligned} & 7,25,897 \\ & 19,083,741\end{aligned}$ | -11.3\% |  |  |  |  |  |  | ${ }^{4.499 \%}$ | 2.0647 <br> 1.9760 |
|  | 2002 | 73,044,202 | 15,54,0,35 | 21.3\% | ${ }_{65,678}$ | 138,128,509 | 29,413,090 | 21.3\% |  |  |  |  |  |  | 4.49\% | ${ }^{1.8990}$ |
|  | 2003 | 93,27,591 | ${ }^{21,322,895}$ | ${ }^{22.9 \%}$ | ${ }^{81,214}$ | ${ }^{1688.807,720}$ | 38,588,789 | 22.9\% |  |  |  |  |  |  | 4.49\% | 1.8097 |
|  | 2004 | 110,408, 819 | 27,79,450 | 25.2\% | ${ }^{90,841}$ | ${ }^{191,221,252}$ | ${ }^{48,112,291}$ | 25.2\% |  |  |  |  |  |  | 4.49\% | ${ }^{1.7319}$ |
|  | 2005 | 120,428,110 | ${ }^{31,11,00,448}$ | 25.9\% | ${ }^{92,413}$ | ${ }^{1999,6778785}$ | ${ }^{51,647,998}$ | ${ }^{25.9 \%}$ |  |  |  |  |  |  | 4.49\% | ${ }^{1.6575}$ |
|  | ${ }_{2006}^{2006}$ | 122,083,274 | ${ }_{\text {a }}^{4.5 .951 .533}$ |  |  | ${ }_{\text {c }}^{193,652,621}$ | $72,88,976$ 664386.399 |  |  |  |  |  |  |  | 4.4.49\% | cole |
|  | ${ }_{2008}^{2007}$ | (122,579,321 | 42,414,028 $56,172,030$ | - ${ }^{34.69 \%}$ |  | $186,080,915$ $177,624,280$ |  | - ${ }_{\text {34.6\% }}^{\text {4.9\% }}$ |  |  |  |  |  |  | ${ }^{4.499 \%}$ | ${ }_{1.4528}^{1.5180}$ |
|  | 2009 | 120,78,650 | 57,720,098 | 47.9\% | ${ }^{86,125}$ | 167,93,899 | 80,250,268 | 47.8\% |  |  |  |  |  |  | 4.49\% | ${ }^{1.3993}$ |
|  | 2010 | 119,366,779 | ${ }^{65,750,657}$ | ${ }_{\text {cher }}^{55.110}$ | ${ }^{84,018}$ | 155,812,226 |  | cis. 5 |  |  |  |  |  |  | 4.499\% | 1.3306 |
|  | ${ }_{2011}^{2011}$ | 116,68,512 | 77,000, 236 | 66.0\% | ${ }_{7}^{81,902}$ | ${ }^{148,581.161}$ | 98,100.644 |  |  |  |  |  |  |  | 4.499\% | -1.2734 |
|  | ${ }_{2013}^{2012}$ | 115,256,465 |  | ${ }^{78.99 \%}$ | 79.975 <br> 77747 | 140,454,921 131.477 737 | (10,787,461 | 78.9\% |  |  |  |  |  |  | ${ }^{4.499 \%}$ | 1.2186 <br> 1.1662 |
|  | 2014 | 110,772,886 | ${ }_{91,181,332}$ | 82.9\% | 75,522 | 123,634,577 | 102,474,771 | 82.9\% |  |  |  |  |  |  | 4.49\% | ${ }_{1}^{1.116162}$ |
|  | 2015 | 107,960,700 | 100,791.024 | 93.4\% | 73,130 | ${ }^{115,346,002}$ | 107,67, 860 | 93.4\% |  |  |  |  |  |  | 4.49\% | ${ }_{1}^{1.0681}$ |
| $\begin{aligned} & \text { Projected } \\ & \text { Expuree } \\ & \text { Experence } \end{aligned}$ | ${ }_{2017} 2017$ | ${ }^{1055,444,124}$ | ${ }^{1232,54595959}$ | ${ }^{1177.36}$ | ${ }^{7} 67.7834$ | ${ }^{1073,3652,315}$ | ${ }^{120,9099,62626}$ | $11773{ }^{\text {17\% }}$ | ${ }^{1.0000}$ | ${ }^{1.0000}$ | 0.0405 | 1.0000 | 0.959 |  |  | ${ }^{1.0222}$ |
|  | 2018 | 107,380,488 | 133,862,223 | 124.7\% | 64,957 | 100,531,343 | 125,323,971 | 124.7\% | 1.0813 | 1.0000 | ${ }_{0}^{0.0431}$ | 1.0000 | 0.957 |  | ${ }_{4.49 \%}$ | ${ }_{0}^{0.9362}$ |
|  | 2019 | 109,041,930 | 143,360,839 | 131.5\% | ${ }_{61,764}$ | 97,69,310 | 128,447,027 | 131.5\% | ${ }^{1.1754}$ | 0.9991 | 0.0492 | 0.9966 | 0.951 | 0.938 | 4.49\% | ${ }_{0}^{0.9960}$ |
|  | 2020 | 105,592,02 | 151,566,499 | 143.5\% | ${ }_{58,318}$ | 90,50,306 | 129,961,330 | 143.5\% | 95 | 0.9971 | ${ }^{0.0558}$ | 0.9992 | 14 |  | 4.49\% | 0.8575 |
|  | 2021 | 98,361,649 | 160,513,289 | 163.2\% | 55,285 | 80,74,979 | 131,71, 242 | 163.2\% | 1.2312 | 0.9970 | 0.0520 | 0.9990 | 0.948 | 0.931 | 4.49\% | ${ }_{0} .8226$ |
|  | 2022 | ${ }^{911,123,731}$ | 169,036,282 | 185.5\% | 52,242 | 71,561,138 | 132,747,295 | ${ }^{185.5 \%}$ | 1.2312 | ${ }^{0.9970}$ | ${ }^{0.0550}$ | ${ }^{0.9890}$ | 0.945 | 0.926 | 4.49\% | ${ }^{0.7853}$ |
|  | 2023 | 84,023,251 | 177,843,808 | 210.5\% | 49,190 | ${ }^{63,148,442}$ | 132,908,579 | 210.5\% | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.0584}$ | ${ }^{0.9990}$ | 0.942 | ${ }^{0.922}$ | 4.49\% | ${ }^{0.7516}$ |
|  | 2024 2025 | ${ }^{77,093,886}$ |  | ${ }^{238.3 \%}$ | ${ }_{\text {che }}^{46,143}$ | $55.449,866$ $48.433,357$ | 132,114,472 | 238.3\% | 1.12312 | - 0.90970 | ${ }_{0}^{0.0620} 0$ | -0.9990 | ${ }^{0.9388}$ | ${ }^{0.9918}$ | 4.4.49\% | ${ }_{0}^{0.77193}$ |
|  | ${ }_{2026}^{2025}$ | ${ }_{6} 6,910,153$ | ${ }_{\text {193, }}^{1939,428}$ | ${ }_{\text {303.2\% }}^{269.15}$ | ${ }_{4}^{43,114}$ | 42,100,304 | (127,659,878 | ${ }^{203.206}$ | 1.2312 | 0.9970 | ${ }_{0}^{0.0695}$ | ${ }_{0}^{0.99990}$ | 0.930 | 0.908 | ${ }_{4.49 \%}$ | ${ }_{0}^{0.6587}$ |
|  | 2027 | 57,725,803 | 196,810,866 | 340.9\% | ${ }^{37,167}$ | 36,39,736 | 124,074,308 | 340.9\% | 1.2312 | 0.9970 | 0.0735 | 0.9990 | 0.926 | 0.903 | 4.49\% | 0.6334 |
|  | 2028 | 51,855,677 | 199,396,554 | 382.6\% | ${ }^{34,278}$ | 31,285,745 | 119,697,291 | ${ }^{382.6 \%}$ | 1.2312 | ${ }^{0.9970}$ | ${ }^{0.0777}$ | ${ }^{0.9890}$ | 0.922 | 0.898 | 4.49\% | ${ }^{0.6033}$ |
|  | 2029 | ${ }^{46,388,713}$ | 198,578,483 | 428.8\% | ${ }^{31,462}$ | 26,738,086 | 114,656,794 | 428.8\% | 1.2312 | ${ }^{0.9970}$ | ${ }^{0.0821}$ | ${ }^{0.9890}$ | 0.918 | ${ }^{0.893}$ | 4.49\% | 0.5774 |
|  | 2030 | ${ }^{41,113,818}$ | 197,343,262 | 4880.0\% | ${ }^{28,735}$ | 22,718,143 | 109,045,392 | 480.0\% | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.0867}$ | ${ }^{0.9890}$ | 0.913 | ${ }^{0.8888}$ | ${ }^{4.49 \%}$ | ${ }^{0.5526}$ |
|  | ${ }_{2032}^{2031}$ |  | 194,667.448 190, | 536.5\% | ${ }_{\text {cker }}^{26,108}$ |  | (102,947,508 | 536.50\% | \|li.2312 | ${ }^{0.9970} 0$ | ${ }_{0}^{0.00963}$ | -0.9990 | 0.909 0.904 | - 883 | 边 | - $\begin{aligned} & 0.52888 \\ & 0.5061\end{aligned}$ |
|  | 2033 | ${ }^{27,732,635}$ | 184,934,205 | 666.8\% | ${ }_{21,200}^{2,5150}$ | 13,431.619 | ${ }_{89,568,332}$ | 666.8\% | ${ }_{1.2312}^{1.212}$ | 0.9970 | ${ }_{0}^{0.1014}$ | ${ }_{0}^{0.99990}$ | 0.899 | ${ }_{0.871}$ | ${ }_{4.49 \%}$ | 0.4843 |
|  | 2034 | 24,002,412 | 178,058,850 | 741.8\% | 18,937 | 11,125,244 | 82,531,210 | 741.8\% | 1.2312 | 0.9970 | 0.1067 | 0.9890 | 3 |  |  |  |
|  | 2035 | 20,628,603 | 169,967,536 | ${ }^{823 .}$ | 16,813 | 9,150,438 | 75,394,217 | 23.9\% | ${ }^{2312}$ |  | 0.1122 | 0.9890 | 88 | 859 | 49\% | 0.4436 |
|  | ${ }^{2036}$ | ${ }^{17,600,135}$ | 160,714,379 | 913.1\% |  | $7,477.460$ <br> $6.054,565$ |  | ${ }^{913.19 \%}$ | \|li.2312 | -0.9970 | ${ }^{0} 0.1179$ | -0.9990 | -0.882 | ${ }^{0.8533}$ | ${ }^{4.499 \%}$ | (0.40245 |
|  | ${ }_{2038}^{2038}$ | - | ${ }_{\text {130, }}^{190.611,946}$ | ${ }_{\text {1115.1\% }}^{1010.19 \%}$ | ${ }_{1}^{11,306}$ |  | ${ }_{5}^{61,288,58,588}$ | 1115.1\% | - | -0.9970 | - | ${ }_{0}^{0.99990}$ | ${ }^{0.876}$ |  | ${ }_{4.49 \%}^{4.499 \%}$ | (0.4888 |
|  | 2039 | 10,432,155 | 128,186,346 | 1228.8\% | ${ }_{9,764}$ | 3,881,644 | 47,69,165 | 1228.8\% | 1.2312 | 0.9970 | 0.1364 | ${ }_{0}^{0.9990}$ | 0.864 | ${ }_{0}^{0.833}$ | ${ }_{4.49 \%}$ | ${ }_{0.3721}^{0.3681}$ |
|  | 2040 | ${ }^{8,619,784}$ | 116,509,107 | 1351.6\% | ${ }^{8,370}$ | 3,069,414 | 41,487,663 | 1351.6\% | 1.2312 | 0.9970 | ${ }^{0.1428}$ | 0.9890 | 0.857 | 0.826 | 4.49\% | ${ }_{0}^{0.3561}$ |
|  | 2041 | 7,060,455 | 104,789,932 | ${ }^{148339 \%}$ | 7.118 | 2,406,075 | ${ }^{35,703,593}$ | ${ }^{1483.9 \%}$ | ${ }^{1.2312}$ |  | ${ }^{0.1496}$ | ${ }^{0.9990}$ | 0.850 | ${ }^{0.819}$ | ${ }^{4.49 \%}$ | -0.3088 |
|  | ${ }_{2043}^{2024}$ | 5,730,916 <br> $4.607,356$ |  | ${ }_{\text {1268.6\% }}^{17814 \%}$ |  | $1,869,037$ 1.438 .014 1 | $30,002,647$ 25.617.019 |  | \|lizer | - 0.98970 | ${ }_{0}^{0.15668} \begin{aligned} & 0.1643 \\ & 0.10\end{aligned}$ | 0.98990 0.9890 | 0.843 0.836 | (0.804 | 4.4.49\% | ${ }_{0}^{0.332121}$ |
|  | ${ }_{2044}^{2043}$ | 3,667,652 | 71,505,474 | 1999.6\% | 4,158 | 1,095,511 | ${ }_{\text {21, }}^{21,58,366}$ | 1999.6\% | ${ }_{1.2312}^{1.221}$ | 0.9970 | 0.1712 | ${ }^{0.9890}$ | ${ }_{0.829}$ | ${ }_{0}^{0.796}$ | ${ }^{4.499 \%}$ | ${ }_{0}^{0.2987}$ |
|  | 2045 | 2,889,822 | 61,62, ,18 | 21323\% | ${ }_{3,413}$ | ${ }_{826,071}$ | 17,14,690 | 2132.3\% | 1.2312 | 0.9970 | 0.1791 | 0.9890 | 0.821 | 0.788 | 4.49\% | ${ }_{0.2859}$ |
|  | 2046 | ${ }^{2,252,826}$ | 52,519,133 | 2331.3\% | 2,775 | 616,299 | 14,367,497 | 2331.3\% | 1.2312 | 0.9970 | 0.1871 | 0.9890 | 0.813 | 0.780 | 4.49\% | 0.2736 |
|  | 2047 | 1,736,341 | 44,246,273 | ${ }^{2548.29 \%}$ | 2,232 | 454,536 | ${ }^{11,5833.976}$ | ${ }^{2548.2 \%}$ | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.1957}$ | ${ }^{0.98990}$ | 0.804 | 0.771 | 4.49\% | ${ }^{0.2618}$ |
|  | ${ }_{2048}^{2048}$ | 1,322,405 <br> 995 <br> 1233 | $36,822,611$ <br> $30,249,340$ | ${ }_{\text {20394.4\% }}^{2780}$ | $1,7,75$ <br> 1,37 <br> 1 | $\underset{\substack{331,322 \\ 238,639}}{ }$ | ${ }_{\substack{\text { l } \\ 7,255,25,239}}$ | ${ }_{\text {3039.4\% }}^{278.50 \%}$ | \|li.2312 | - 0.90970 | ${ }_{0}^{0.2045}$ | ${ }^{0.98990} 0$ | ${ }_{0}^{0.7897}$ | - ${ }_{0}^{0.752}$ | ${ }_{4}^{4.499 \%}$ | (0.2396 |
|  | 2050 | ${ }_{739,577}$ | 24,496,623 | 3312.2\% | 1,088 | 169,714 | 5,621,334 | ${ }^{3312.2 \%}$ | ${ }_{1.2312}$ | 0.9970 | 0.2215 | 0.9890 | 0.779 |  | 4.49\% | ${ }_{0}^{0.2295}$ |
|  | 2051 | 541,993 | 19,553,177 | ${ }^{3602.11 \%}$ | ${ }^{835}$ | 119,027 | 4,287,470 | ${ }^{3602.1 \%}$ | 1.2312 | ${ }^{0.9970}$ | 0.2329 | 0.9890 | 67 |  | 9\% | ${ }_{0} .2196$ |
|  | ${ }^{2052}$ |  | 15,294,927 | ${ }^{3911.79 \%}$ | 632 | ${ }^{82,176}$ | 3,214,515 | ${ }^{3911.7 \%}$ | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.22299}$ | ${ }^{0.98990}$ | 0.757 | ${ }^{0.721}$ | 4.49\% | ${ }^{0.2102}$ |
|  | ${ }_{2054} 205$ | 210,042 | 11, 803,591 | 4259220\% | 343 | ${ }^{55,642}$ | ${ }_{1}^{2,655543}$ | ${ }^{245929}$ |  |  | ${ }^{0} 0.2683$ | .09990 | 0.732 |  |  | 0.2011 |
|  | ${ }_{2055}^{2054}$ | ${ }_{131,107}^{132,23}$ | ci, | ${ }^{49510.6 \%}$ | ${ }_{247} 24$ | ${ }^{24,152}$ | ${ }_{\text {1,185,992 }}$ | ${ }_{4910.6 \%}^{458.2 \%}$ | li. | 0.0.9970 | ${ }_{0}^{0.28814}$ | ${ }_{0}^{0.99990}$ | 0.7132 0.719 | ${ }_{0}^{0.6959}$ | ${ }^{4.499 \%}$ | (0.1842 |
|  | 2056 | ${ }^{87,173}$ | 4,574,611 | 5247.7\% | 172 | 15,368 | 806,477 | 5247.7\% | 1.2312 | 0.9970 | ${ }^{0.3037}$ | 0.9890 | 0.696 | ${ }_{0}^{0.665}$ | 4.49\%\% | ${ }_{0}^{0.1763}$ |
|  | 2057 | 56,291 | ${ }^{3,168,078}$ | 5628.0\% | 115 | 9,497 | 534,54 | 5628.0\% | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.3308}$ | ${ }^{0.9890}$ | 0.669 | ${ }^{0.646}$ | 4.49\% | ${ }^{0.1687}$ |
|  | ${ }^{2058}$ |  | 2,123,581 <br> 1.382175 | ${ }^{601.10 \% \%}$ | 75 47 | 5,704 3,335 | ${ }^{342,879}$ |  | \|1.2312 | ${ }_{0}^{0.9970} 0$ | ${ }_{0}^{0.33772}$ | ${ }^{0.98990}$ | 0.653 0.629 | (0.628 | 4.4.49\% | ${ }_{0}^{0.1 .1615}$ |
|  | 2060 | ${ }_{12,825}^{21,580}$ | ${ }_{\text {1 }}^{1,12884,1,53}$ | ${ }_{\text {6818.9\% }}^{604.99 \%}$ | ${ }_{29}^{47}$ | 3,335 1,89 | ${ }_{129,325}^{213,56}$ |  | ${ }_{1.2312}^{1.2312}$ | 0.0.9970 | ${ }_{0}^{0.39712}$ | ${ }_{0} .99990$ | ${ }_{0}^{0.604}$ | ${ }_{0}^{0.594}$ | ${ }^{4.49 \%}$ | ${ }_{0}^{0.1479}$ |
|  | 2061 | 7,435 | 539,425 | 7255.5\% | ${ }^{16}$ | 1,052 | ${ }^{76,341}$ | 7255.5\% | 1.2312 | 0.9970 | ${ }^{0.4348}$ | 0.9890 | 0.565 | 0.580 | 4.49\% | 0.1415 |
|  | ${ }^{2062}$ | 4,209 | 335.045 | 7959.8\% | 9 | 570 | 45.378 | 7959.8\% | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.4622}$ | ${ }^{0.9890}$ | ${ }^{0.538}$ | ${ }^{0.566}$ | 49\% | 0.1354 |
|  | 2063 | 2,398 | 211,179 | 8800.0\% | 5 | 311 | ${ }^{27,372}$ | 8800.0\% | 1.2312 | 0.9970 | ${ }^{0.4658}$ | 0.9890 | 0.534 | 0.570 | 4.49\% | ${ }^{0.1296}$ |
|  | ${ }_{2064}^{2064}$ | ${ }^{1,4113}$ | 137,706 | 9745.9\% | ${ }^{3}$ | 175 | 117.082 | 974.9\% | ${ }^{1.2312}$ | ${ }^{0.9970}$ | ${ }^{0.3761}$ | ${ }^{0.98990}$ | 0.624 | ${ }^{0.589}$ | ${ }^{4.49 \%}$ | ${ }^{0.1240}$ |
|  | ${ }_{2065}^{2065}$ | ${ }^{870}$ | ${ }^{93,436}$ | 10734.4\% | ${ }_{1}^{2} 1$ | 103 63 | ${ }_{7}^{11,092}$ | 10734.4\% | (12312 | -0.9970 | ${ }_{\substack{0 \\ 0.42474 \\ 0.3274}}^{0.4}$ | -0.9990 | ${ }^{0.575}$ | -0.616 | ${ }^{4.499 \%}$ | ${ }_{0}^{0.1187} 0$ |
|  | ${ }_{2067}^{2066}$ | 362 | ${ }_{4}^{65,7224}$ | ${ }_{\text {13033.6\% }}^{11738 \%}$ | 1 | ${ }_{39}^{63}$ | ci, |  | 1.2312 | 0.9970 | ${ }_{0.3982}$ | ${ }_{0}^{0.9890}$ | ${ }_{0}^{0.602}$ | ${ }_{0}^{0.651}$ | ${ }^{4.49 \%}$ | ${ }_{0}^{0.1087}$ |
|  | 2068 | 235 | ${ }^{33,557}$ | 14424.2\% | - | 24 | 3,523 | 14424.2\% | 1.2312 | 0.9970 | NA | 0.9890 | N/A |  |  |  |
|  | 2069 | 151 | 24,826 | 16436.1\% | - | ${ }^{15}$ | 2,472 | 16436.1\% | ${ }^{1.2312}$ | 0.9970 | N/A | 0.9890 | N/A | NA | 4.49\% | ${ }^{0.0996}$ |
|  | 2070 | ${ }^{98}$ | 17.923 | 18281.2\% | $\bigcirc$ | 9 | 1,708 | 18281.2\% | ${ }^{1.2312}$ | 0.9970 | N/A | 0.9990 | N/ | NA | 4.49\% | ${ }^{0.0953}$ |
|  | ${ }_{2072}^{2015}$ | ${ }_{39}^{62}$ | 1,4,48 | 24840 3 20\% | - | ${ }_{3}^{6}$ | $\underset{84}{1,229}$ | ${ }_{28480.3 \%}^{21771.7 \%}$ | \|i.2312 | - 0.90970 | N/A | 0.98990 0.9890 | N/A | NA | ${ }^{4.449 \%}$ | -0.0873 |
|  | 2073 | ${ }_{25}$ | ${ }_{7,126}$ | 28303.8\% | \% | 2 | 595 | 28303.8\% | ${ }_{1}^{1.2312}$ | 0.9970 | N/A | ${ }_{0}^{0.9890}$ | N/A | N/A | ${ }^{4.49 \%}$ | ${ }_{0}^{0.0835}$ |
|  | 2074 | 16 | 4.883 | 31200.0\% | $\bigcirc$ | 1 | 390 | 31204.0\% | 1.2312 | 0.9970 | N/A | 0.9890 | N/A | N/A | 4.49\% | 0.0799 |
|  |  | $\stackrel{9}{5}$ | ${ }_{2}^{2,998}$ | ${ }^{316565 \%}$ | : | ${ }_{0}^{1}$ | ${ }_{117}^{229}$ | ${ }^{31655.3 \%}$ |  | - 0.9970 | N/A | ¢.99990 | N/ | N/A |  | ${ }_{0}^{0.0075}$ |
|  | 2077-2097 | 3 | 988 | 38158.4\% |  | 0 | 69 | 3815.4\% | ${ }_{1.2312}^{1.212}$ | ${ }_{0}^{0.9970}$ | NA | O.9890 | NA | N/A | 4.49\% | ${ }_{0}^{0.0701}$ |
|  | Past Future <br> Lifetime | $1,778,652,695$ $1,346,672,572$ $3,125,325,268$ | $\begin{array}{r} 952,280,127 \\ 4,707,570,311 \\ 5,659,850,438 \\ \hline \end{array}$ | $\begin{aligned} & 53.5 \% \\ & 349.6 \% \\ & 181.1 \% \end{aligned}$ | 1,341,131 2,213,681 | $\begin{array}{r} 2,564,406,890 \\ 974,624,269 \\ 3.539 .031 .159 \end{array}$ $3,539,031,159$ | $\begin{aligned} & 1,233,904,554 \\ & 2,673,118,368 \\ & 3,907,022,922 \end{aligned}$ | $\begin{gathered} 48.106 \\ 24.30 \\ 10.40 \% \end{gathered}$ |  |  |  |  |  |  |  |  |


The prior authorized increase of $15 \%$ is isplemented stating January 1 st 2018 . The current requested increase of $7.06 \%$ is assumed to be implemented statring April 2019 .

## Exhibit II

Demonstration that Lifetime Incurred Claims with Requested Increase are

## Not Less than Lifetime Earned Premium with Prescribed Factors

Group Policy Form: G.LTC. 1697

| 1 Accumulated value of initial earned premium | 2,564,406,890 | x | 58\% | = | 1,487,355,996 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2a Accumulated value of earned premium | 2,564,406,890 |  |  |  |  |
| 2 b Accumulated value of prior premium rate schedule increases (2a-1) | 0 | $x$ | 85\% | = | 0 |
| 3 Present value of future projected initial earned premium | 834,259,941 | x | 58\% | $=$ | 483,870,765 |
| 4a Present value of future projected premium | 974,624,269 |  |  |  |  |
| 4 b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 140,364,329 | x | 85\% | $=$ | 119,309,680 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b |  |  |  |  | 2,090,536,441 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves |  |  |  |  | 1,233,904,554 |
| 6b Present value of future projected incurred claims without the inclusion of active life reserves |  |  |  |  | 2,673,118,368 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b |  |  |  |  | 3,907,022,922 |
| 8 Test: 7 is not less than 5 |  |  |  |  | true |

Atachment 1


-Ine projections are based on the assumplions derived using experience datat through June 30,2010

Attachment 1


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{} \& \& \multicolumn{7}{|c|}{Loss Ratio Demonstration} \& \multicolumn{6}{|c|}{Factors Derived from Projected Values for lllustrative Purposes Only} \& \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} \\
\hline \& \& \multicolumn{3}{|c|}{ut interest} \& \& \multicolumn{3}{|r|}{With interest} \& \multirow[t]{2}{*}{\[
\begin{array}{|c|}
\hline \text { Premium } \\
\text { Rate Increase } \\
\text { Factor } \\
\hline
\end{array}
\]} \& \multirow[b]{2}{*}{Benefit
Downgrade} \& \multicolumn{4}{|l|}{} \& \& \\
\hline \& \({ }_{\substack{\text { Calendar } \\ \text { Year }}}^{\text {ar }}\) \& （earned \& Incured
Claims
a \& \(\underset{\substack{\text { Loss } \\ \text { Ratio }}}{\text { a }}\) \& \[
\begin{gathered}
\text { Lite } \\
\text { rears }
\end{gathered}
\] \& Earned
Premium \& Incurred
Claims \& \[
\begin{aligned}
\& \text { Loss } \\
\& \text { Ratio } \\
\& \hline
\end{aligned}
\] \& \& \& Policy
Lapse \＆Mortality \&  \& Policy \& Premium
Persistency \& \[
\begin{gathered}
\text { Calendar Year } \\
\text { Effective } \\
\text { Int Rate }
\end{gathered}
\] \& \[
\begin{gathered}
\text { Mid-Year } \\
\text { Disc / Accum } \\
\text { Factor } \\
\hline
\end{gathered}
\] \\
\hline \multirow{15}{*}{Historical
Experience} \& 1997 \& \& \& N／A \& \& \& \& N／A \& \& \& \& \& \& \& \& \\
\hline \& 1998 \& \& \& N／ \& \& \& \& \& \& \& \& \& \& \& \({ }^{4.49 \%}\) \& \({ }^{2.2544}\) \\
\hline \& \begin{tabular}{l}
1999 \\
2000 \\
\hline
\end{tabular} \& \& \& N．0\％ \& \({ }_{334}^{1}\) \& \({ }^{185,656}\) \& \& N／ \& \& \& \& \& \& \& －\({ }_{4.499 \%}^{4.49 \%}\) \& \begin{tabular}{l}
2.1575 \\
2.0647 \\
\hline 1
\end{tabular} \\
\hline \& 2001 \& \({ }^{644,355}\) \& 2，310 \& 0．4\％ \& 686 \& 1，275，201 \& 564 \& 0．406 \& \& \& \& \& \& \& \({ }^{4.499 \%}\) \& \({ }^{1.9760}\) \\
\hline \& \begin{tabular}{l}
2002 \\
2003 \\
\hline
\end{tabular} \& －939，193 \& 352.711 \& － \(2.0 .4 \%\) \& \(\begin{array}{r}\text { 920 } \\ 1.280 \\ \hline\end{array}\) \& \(1,776,039\)
\(\substack{\text { 2，} 13,875}\) \& 638，314 \&  \& \& \& \& \& \& \& \({ }_{4}^{4.499 \%}\) \& \begin{tabular}{l}
1.8990 \\
1.8097 \\
\hline
\end{tabular} \\
\hline \& 2004 \& \({ }_{1,756,640}^{1,040}\) \& 146，967 \& \({ }_{8.4 \%}\) \& 1，496 \& 3，042，392 \& \& \& \& \& \& \& \& \& 4．49\％ \& \({ }_{1.7319}^{1.609}\) \\
\hline \& 2005 \& 2，110，460 \& 984,672 \& 46．7\％ \& 1，631 \& 3，498，057 \& 1，632，081 \& 46．7\％ \& \& \& \& \& \& \& 4．49\％ \& \({ }^{1.6575}\) \\
\hline \& 2006 \& 2，199，641 \& 434,477 \& 19．9\％ \& 1，602 \& 3，489，145 \& 689,182 \& 19．8\％ \& \& \& \& \& \& \& 4．49\％ \& \({ }_{1}^{1.5682}\) \\
\hline \& 2007 \& \({ }_{\text {2，210，588 }}\) \& 522,550 \& 23．6\％ \& \({ }^{1,563}\) \& 3，355，772 \& 793，254 \& 23．6\％ \& \& \& \& \& \& \& 4．49\％ \& \begin{tabular}{l}
1.5180 \\
1.4588 \\
\hline 1.5
\end{tabular} \\
\hline \& 2008
2009 \&  \& \({ }_{756,416}^{40,48}\) \& \({ }^{18.2 \%}\) \& \begin{tabular}{l}
1.532 \\
1,506 \\
\hline
\end{tabular} \& \begin{tabular}{l}
\(3,212,030\) \\
\(3,045,450\) \\
\hline
\end{tabular} \& 583,218
\(1,051,672\) \&  \& \& \& \& \& \& \& \({ }^{4} 4.499 \%\) \& ＋1．4928 \\
\hline \& 2010 \& 2，159，905

$2,120,39$ \& ${ }_{787}^{717,717}$ \& 33．2\％ \& 1，473 \& 2，873，898
2，9059 \& 954，244 \& come \& \& \& \& \& \& \& ${ }^{4.499 \%}$ \& 1．3306 <br>
\hline \& 2011 \& 2，120，399 \& 839,725 \& 39．6\％ \& 1，436 \& 2，700，050 \& 1，069，280 \& 39．6\％ \& \& \& \& \& \& \& 4．49\％ \& －1．2734 <br>
\hline \& ${ }^{2012}$ \&  \& ${ }_{\text {1，}}^{1,1515,060}$ \& －66．6\％ \& $\begin{array}{r}1,1,09 \\ 1,290 \\ \hline 1\end{array}$ \&  \& ${ }_{1}^{1,724,434}$ \& ${ }_{\text {c }}^{66.6 \%}$ \& \& \& \& \& \& \& 4．499\％ \& ${ }_{1}^{1.121862}$ <br>
\hline \& ${ }_{2014}^{2014}$ \& ${ }_{\text {2，113，314 }}^{2,105,762}$ \& ${ }_{\text {l，926，813 }}$ \& ${ }_{\text {912\％}}$ \& ＋1，365 \& ${ }_{\substack{\text { 2，358，688 }}}^{\text {2，45，731 }}$ \&  \& 96．1．2\％ \& \& \& \& \& \& \& ${ }_{4}^{4.49 \%}$ \& ${ }_{1}^{1.111621}$ <br>
\hline \& 2015 \& 2，071，088 \& ${ }_{2,198,318}$ \& 106．1\％ \& 1，330 \& ${ }_{2,2121,190}$ \& 2，348，088 \& 106．19\％ \& \& \& \& \& \& \& 4．49\％ \& ${ }^{1.10681}$ <br>
\hline \& \& 2，010，141
2，051．559 \& 2， 2 200．566 \& ${ }_{\text {129，9\％}}^{19780 \%}$ \& $\xrightarrow{1,292} 1$ \& 2，054，992
2，006978 \&  \& ${ }^{1299.96 \%}$ \& 000 \& \& 67 \& 00 \& \& \& \& <br>
\hline Future \& 2018 \& ${ }_{\text {2，101，549 }}$ \& 2，205，920 \& 105．0\％ \& 1，196 \& 1，967，504 \& 2，065，218 \& 105．0\％ \& 1.0813 \& 1.0000 \& ${ }_{0}^{0.0391}$ \& ${ }_{1}^{1.0000}$ \& ${ }_{0.961}^{0.963}$ \& ${ }_{0}^{1.0947}$ \& ${ }_{4}^{4.49 \%}$ \& ${ }_{0}^{0.9362}$ <br>
\hline Experience \& 2019 \& 2，147，272 \& 2，396，421 \& \& ${ }^{1,142}$ \& 1，923，892 \& 2，147，122 \& \& \& ${ }_{0} 0.9991$ \& \& ${ }^{966}$ \& 0.955 \& 0.944 \& 4．49\％ \& 0.8960 <br>
\hline \& 2020 \& 2，992，792 \& 2，573，551 \& \& 1，084 \& 1，794，474 \& 2，206，702 \& 123．0\％ \& 1.2295 \& 0.9971 \& ${ }^{0.0513}$ \& 0.9992 \& 49 \& 0.941 \& 4．49\％ \& ${ }^{0.8575}$ <br>
\hline \& 2021 \& 1，962，458 \& 2，769，970 \& 141．19\％ \& 1，033 \& 1，610，381 \& 2，273，021 \& 141．1\％ \& 1.2312 \& ${ }^{0.9970}$ \& 472 \& 0.9990 \& 933 \& ${ }^{937}$ \& 49\％ \& ${ }^{0.82066}$ <br>
\hline \& ${ }^{2022}$ \& 1，830，447 \& 2，964，420 \& 162．0\％ \& \& 1，437，484 \& 2，328，014 \& 162．0\％ \& ${ }^{1.2312}$ \& ${ }^{0.9970}$ \& ${ }^{0.0501}$ \& ${ }^{0.9890}$ \& ${ }^{0.950}$ \& 933 \& 4．49\％ \& <br>

\hline \& | 2023 |
| :--- |
| 2024 |
| 0 | \& $1,699,494$

1,570400
1 \&  \&  \& ${ }^{979} 8$ \& $1,277,270$
1,129512 \& $2,368,509$
2,344029 \& ${ }^{185.40 \%}$ \& ｜li．2312 \& － \& ${ }_{0}^{0.0531}$ \& ${ }^{0.98990}$ \& － \& ${ }^{0.928}$ \& 4．49\％ \& －${ }_{0}^{0.77193}$ <br>
\hline \& 2025 \& 1，443，886 \& ${ }^{\text {3，489，726 }}$ \& ${ }^{241.7 \%}$ \& ${ }_{823}$ \& ${ }_{993,873}$ \& 2，402，090 \& ${ }^{241.79 \%}$ \& ${ }_{1}^{1.2312}$ \& 0.9970 \& ${ }_{0}^{0.0601}$ \& ${ }^{0.9890}$ \& ${ }_{0}^{0.940}$ \& ${ }_{0}^{0.919}$ \& ${ }^{4.499 \%}$ \& ${ }_{0}^{0.6883}$ <br>
\hline \& 2026 \& 1，320，682 \& 3，634，058 \& 275．2\％ \& ${ }_{71}$ \& 869，989 \& 2，393，907 \& 275．2\％ \& 1.2312 \& 0.9970 \& ${ }^{0.0637}$ \& 0.9990 \& 0.936 \& 0.915 \& 4．49\％ \& 0.6587 <br>
\hline \& 2027 \& 1，201，559 \& 3，758，776 \& 312．8\％ \& 719 \& 757，492 \& 2，369，623 \& 312．8\％ \& 1.2312 \& 0.9970 \& ${ }^{0.0679}$ \& 0.9890 \& 0.932 \& 0.910 \& 4．49\％ \& 304 <br>
\hline \& 2028 \& 1，087，168 \& 3，956，850 \& 354．8\％ \& 667 \& 655，914 \& 2，326，928 \& 354．8\％ \& 1.2312 \& 0.9970 \& 0.0719 \& 0.9890 \& 0.928 \& 0.905 \& 4．49\％ \& 6033 <br>
\hline \& 2029 \& 977，864 \& 3，924，829 \& 401．4\％ \& 616 \& 564，607 \& 2，266，148 \& 401．4\％ \& 1.2312 \& 0.9970 \& ${ }^{0.0760}$ \& 0.9890 \& 0.924 \& 0.899 \& 4．49\％ \& 0.5774 <br>
\hline \& ${ }^{2030}$ \& 874，299 \& ${ }^{3,961,1,24}$ \& ${ }^{453.1 \%}$ \& 566 \& 483，109 \& ${ }_{\text {2，189，063 }}$ \& ${ }^{453.12 \%}$ \& ${ }^{1.2312}$ \& ${ }^{0.9970}$ \& ${ }^{0.0811}$ \& 0．99990 \& ${ }^{0.919}$ \& －0．894 \& 4．4．49\％ \& ${ }_{\text {cose }}^{0.5526}$ <br>
\hline \& ${ }^{2031}$ \& 776，987 \& 3，964，193 \& 510．2\％ \& 518 \& 410，881 \& 2，096，318 \& 510．2\％ \& ${ }^{1.2312}$ \& ${ }^{0.9970}$ \& ${ }^{0.0855}$ \& ${ }^{0.9890}$ \& 0.915 \& ${ }^{0.889}$ \& ${ }^{4.49 \%}$ \& ${ }^{0.5288}$ <br>
\hline \& 2032 \& 686，074 \& ${ }^{3,929,2916}$ \& 572．7\％ \& 471 \& 324，209 \& ${ }^{1,988,501}$ \& 572．76\％ \& ${ }^{1.2312}$ \& ${ }^{0.9970}$ \& ${ }^{0.0996}$ \& 0．9890 \& ${ }^{0.909}$ \& ${ }^{0.883}$ \& ${ }^{4.49 \%}$ \& ${ }^{0.5061}$ <br>
\hline \& ${ }_{2033}^{2033}$ \&  \& ${ }_{\substack{\text { 3，866，431 } \\ \text { ，762，22 }}}$ \& ${ }^{6417.7 \%}$ \& ${ }^{426}$ \& ${ }^{291,431}$ \& 1，870，189 \& ${ }^{6417.76 \%}$ \&  \& －0．9970 \& ${ }^{0.0059}$ \& ${ }^{0.98990}$ \& 0．904 \& 0．837 \& 4．499\％ \& － 0.4685 <br>

\hline \& ${ }_{2035}^{2034}$ \& ${ }_{453,141}$ \&  \& ${ }^{\text {800．7\％}}$ \& | 383 |
| :--- |
| 342 | \& ${ }_{201,004}$ \& （1，60，348 \& ${ }_{800.76}$ \& ${ }_{1.2312}^{1.221}$ \& 0.9970 \& ${ }_{0}^{0.1074}$ \& ${ }_{0}^{0.9890}$ \& ${ }_{0.893}$ \& ${ }_{0}^{0.865}$ \& ${ }^{4.499 \%}$ \& ${ }_{0}^{0.4436}$ <br>

\hline \& 2036 \& 388，802 \& 3，465，217 \& 891．3\％ \& 303 \& 165，051 \& 1，471，024 \& 891．3\％ \& 1.2312 \& 0.9970 \& 0.1128 \& 0.9890 \& 0.887 \& 0.858 \& 4．49\％ \& ${ }^{0.4225}$ <br>
\hline \& 2037 \& 330，960 \& 3，275，048 \& 989．6\％ \& 267 \& 134，457 \& 1，330，530 \& 989．6\％ \& 1.2312 \& 0.9970 \& 0.1190 \& 0.9890 \& 0.881 \& 0.851 \& 4．49\％ \& <br>
\hline \& ${ }_{2038}^{2038}$ \& ${ }_{223,917}^{27,395}$ \& 退 \& 11215．0\％ \& ${ }_{203}^{234}$ \&  \&  \& （1098．2\％ \& ｜li．2312 \& － 0.90970 \& ${ }_{0}^{0.11251}$ \& ${ }^{0.98990}$ \& 0.875
0.868 \& （0．834 $\begin{aligned} & 0.837 \\ & 0.83\end{aligned}$ \& ${ }^{4.499 \%}$ \& ${ }_{\text {a }}^{0} 0.38888$ <br>
\hline \& 2040 \& 194，181 \& 2，606，790 \& 1342．5\％ \& 174 \& ${ }_{69,146}$ \& ${ }^{1,928,250}$ \& 1342．5\％ \& ${ }_{1.2312}$ \& 0.9970 \& ${ }_{0}^{0.1396}$ \& 0.9890 \& ${ }_{0.860}$ \& ${ }_{0}^{0.830}$ \& ${ }_{4.49 \%}$ \& ${ }_{0}^{0.3561}$ <br>
\hline \& 2041 \& 159，785 \& 2，368，303 \& 1482．2\％ \& 149 \& 54，452 \& 807，075 \& 1482．2\％ \& ${ }_{1.2312}$ \& 0.9970 \& 0.1453 \& 0.9890 \& ${ }_{0} .855$ \& ${ }_{0} .823$ \& 4．49\％ \& 0.3408 <br>
\hline \& $\begin{array}{r}2042 \\ 2043 \\ \hline\end{array}$ \& 130，259
105,174 \& ${ }_{\substack{2 \\ \text { 2，822，048 }}}^{2,127,966}$ \& 1633．6\％\％

$1799.0 \%$ \& | 126 |
| :--- |
| 106 | \&  \&  \& 1793．69\％ \& ｜li．2312 \& － 0.90970 \& ${ }_{0}^{0.1521}$ \& 0.98990

0.9890 \& －${ }_{0.8398}^{0.838}$ \& （0．815 \& ${ }^{4.499 \%}$ \& － <br>
\hline \& 2044 \& 84，062 \& 1，663，368 \& 1978．7\％ \& ${ }_{88}$ \& ${ }_{25,109}$ \& 4996，841 \& 1978．7\％ \& 1.2312 \& 0.9970 \& 0.1674 \& 0.9890 \& ${ }_{0.833}$ \& ${ }_{0}^{0.799}$ \& 4．49\％ \& 0.2987 <br>
\hline \& 2045 \& 66，468 \& 1，445，802 \& 2175．2\％ \& ${ }^{73}$ \& ${ }^{19,000}$ \& 413，290 \& 2175．2\％ \& 1.2312 \& 0.9970 \& 0.1767 \& 0.9890 \& ${ }_{0} .823$ \& 0.791 \& 4．49\％ \& 0.2859 <br>
\hline \& ${ }^{2046}$ \& 52，033 \& 1，242，527 \& ${ }^{2389.3 \%}$ \& 59 \& 14，226 \& ${ }^{339,914}$ \& 2389．3\％ \& 1.2312 \& ${ }^{0.9970}$ \& ${ }^{0.1829}$ \& ${ }^{0.9990}$ \& ${ }^{0.817}$ \& 0.782 \& 4．49\％ \& ${ }^{0.2776}$ <br>
\hline \& ${ }_{2048}^{2047}$ \& 40,238

30,760 \& | 1，054，005 |
| :--- |
| 882.305 | \& 2819．4\％\％ \& ${ }_{38}^{48}$ \& $\underset{\substack{10.535 \\ 77707}}{\substack{\text { c，}}}$ \& ${ }_{\text {221，}}^{275946}$ \& ${ }^{268989} 380$ \& ｜i．2312 \& －0．9970 \& － 0.10945 \& 0.98990

0.9990 \& 0.806

0.801 \& － \& ${ }^{4.499 \%}$ \& － | 0.2618 |
| :--- |
| 0.2506 | <br>

\hline \& 2049 \& ${ }_{23,26}$ \& ${ }_{72 \text { 28，336 }}$ \& 3138．1\％ \& ${ }_{30}$ \& ${ }_{5,569}$ \& 174,761 \& ${ }^{21388.1 \%}$ \& ${ }_{1}^{1.2312}$ \& 0.9970 \& ${ }_{0.2121}^{0.2109}$ \& ${ }^{0.9890}$ \& ${ }_{0}^{0.788}$ \& ${ }_{0}^{0.755}$ \& ${ }^{4.49 \%}$ \& ${ }_{0}^{0.2398}$ <br>
\hline \& 2050 \& 17，304 \& 599，307 \& 3434．6\％ \& 24 \& 3，971 \& 136，378 \& 3434．6\％ \& 1.2312 \& 0.9970 \& 0.2161 \& 0.9990 \& 0.784 \& 0.745 \& 4．49\％ \& 0.2295 <br>
\hline \& ${ }_{2051}$ \& 12，714 \& 477,669 \& 3757．1\％ \& 18 \& 2，792 \& 104，901 \& ${ }^{3757.1 \%}$ \& 1.2312 \& ${ }^{0.9970}$ \& 0.2302 \& 0.9890 \& 0.770 \& 0.735 \& 4．49\％ \& 0.2196 <br>
\hline \& ${ }_{2052}^{2025}$ \& ${ }^{9.195}$ \& 377，494 \& ${ }^{41052.2 \% \%}$ \& ${ }^{14}$ \& ＋1，933 \& ${ }_{\text {l }} 79,337$ \& ${ }_{4}^{4105.2 \%}$ \& ${ }^{1.23212}$ \& ${ }^{0.9970}$ \& ${ }^{0.2453}$ \& ${ }^{0.98990}$ \& ${ }^{0.7755}$ \& 0．723 \& ${ }^{4.499 \%}$ \& ${ }^{0.2102}$ <br>

\hline \& | 2053 |
| :--- |
| 2054 |
| 205 | \& ${ }_{4,510}^{6.506}$ \& ${ }_{224,087}^{294,137}$ \& ${ }_{4}^{49888.7 .7 \%}$ \& | 10 |
| :---: |
| 7 |
| 7 | \& 1,309

868 \& ${ }_{4}^{59,138}$ \& ${ }_{4968.79 \%}^{452.6 \%}$ \& （1．2312 \& 0.0990 \& ${ }_{0}^{0.26268}$ \& O． 0.98900 \& ${ }_{0}^{0.739}$ \& （0．693 \& ${ }^{4.499 \%}$ 4．49\％ \& －0．1925 <br>
\hline \& 2055 \& 3，085 \& 1677 \& 5416．8\％ \& 5 \& 568 \& 30，787 \& 5416．8\％ \& ${ }^{1.2312}$ \& 0.9970 \& ${ }_{0}^{0.2968}$ \& 0.9890 \& 0.703 \& 0.684 \& 4．49\％ \& 0.1842 <br>

\hline \& ${ }^{2056}$ \& 2，068 \& ${ }^{121,749}$ \& 558．3\％\％ \& ${ }^{4}$ \& | 365 |
| :--- |
|  |
| 238 | \& ${ }^{21,464}$ \& 5888．3\％ \& ${ }^{1.2312}$ \& 0．9970 \& ${ }^{0.30588}$ \& ${ }^{0.98990}$ \& 94 \& 70 \& 行 \& ${ }^{0.1763}$ <br>

\hline \& 2058 \& ${ }^{1,353}$ \& ${ }^{85,441}$ \& ${ }^{631.35 \%}$ \& ${ }^{3}$ \& ${ }^{228}$ \& 1 \& 6350．3\％ \& 1．12321 \& \& ${ }^{0.3135}$ \& 0．9990 \& \& \& \& <br>
\hline \& 2059 \& ${ }_{530}$ \& ${ }^{57,7,06}$ \& ${ }_{6988.4 \%}$ \& ${ }^{2}$ \& ${ }_{82}^{139}$ \& ${ }_{5}^{9,7719}$ \& 69966．40\％ \& ${ }_{1}^{1.2312}$ \& 0.9970 \& ${ }_{0}^{0.3855}$ \& ${ }_{0}^{0.9999}$ \& ${ }_{0}^{0.765}$ \& － \& ${ }_{4}^{4.499 \%}$ \& ${ }_{0}^{0.1545}$ <br>
\hline \& 2060 \& 320 \& 22，402 \& 7001．8\％ \& 1 \& 47 \& ${ }_{3,313}$ \& 7001．8\％ \& 1.2312 \& 0.9970 \& 0.4000 \& 0.9890 \& 0.600 \& 0.604 \& 4．49\％ \& 0.1479 <br>
\hline \& $\begin{array}{r}2061 \\ 2062 \\ \hline\end{array}$ \& 187
102 \& ${ }_{\substack{12,310 \\ 6.028}}^{1}$ \&  \& $\bigcirc$ \& 26
14
14 \& ${ }_{\substack{1,742}}$ \& ${ }_{\text {cose }}^{65855.60 \%}$ \& ｜li．2312 \& －0．9970 \& NA \& ${ }^{0.99990}$ \& N／A \& \& 㖪 $49 \%$ \& ${ }_{\substack{0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0.1454}}^{0.145}$ <br>
\hline \& 2063 \& 53 \& 2，898 \& 5437．0\％ \& \％ \& \& 376 \& \& \& 0.9970 \& NA \& 0.9890 \& N \& \& \& 1296 <br>
\hline \& 2064 \& 29 \& 1，274 \& 4375．6\％ \& － \& 4 \& 158 \& 4337．6\％ \& ${ }_{1.2312}^{1.212}$ \& 0.9970 \& NA \& ${ }_{0}^{0.9990}$ \& N／A \& N／A \& ${ }_{4}^{4.49 \%}$ \& 0.1240 <br>
\hline \& 2065 \& 17 \& 672 \& 3975．9\％ \& － \& 2 \& 80 \& 3975．9\％ \& 1.2312 \& 0.9970 \& N／A \& 0.9890 \& NA \& NA \& 49\％ \& 0.1187 <br>

\hline \& ${ }_{2066}$ \& ${ }^{10}$ \& 305 \& ${ }^{3053.3 \%}$ \& $$
0
$$ \& 1 \& ${ }^{35}$ \& ${ }^{3053.8 \%}$ \& ${ }^{1.2312}$ \& ${ }^{0.9970}$ \& N／A \& ${ }^{0.98990}$ \& N／ \& N／ \& ${ }^{4.49 \%}$ \& ${ }^{0} 0.1136$ <br>

\hline \& ${ }_{2068}^{2067}$ \& ${ }_{4}^{6}$ \& ${ }_{106}^{187}$ \& ${ }^{29774.2 \% \%}$ \& $\bigcirc$ \& 1 \& 20 \& ${ }^{2976.29 \%}$ \& ｜ri．2312 \& 0．0．9970 \& N／${ }_{\text {NA }}$ \& 0.98990

0.9890 \& N／A \& N／A \& － | $4.499 \%$ |
| :--- |
| $4.49 \%$ | \& <br>

\hline \& 2069 \& 2 \& 49 \& 2287．5\％ \& － \& 。 \& 5 \& 2287．5\％ \& 1.2312 \& 0.9970 \& NA \& 0.9890 \& N／A \& NA \& 4．49\％ \& 0.0996 <br>
\hline \& 2070 \& 1 \& 17 \& 1270．0\％ \& \& 0 \& 2 \& 12770．0\％ \& 1.2312 \& ${ }^{0.9970}$ \& N／A \& ${ }^{0.9890}$ \& NA \& NA \& 4．49\％ \& ${ }^{0.0953}$ <br>

\hline \& ${ }_{2072}^{2071}$ \& \& \& ${ }_{\text {1757．0\％}}^{\text {N／}}$ \& \& 0 \& 1 \& 1757．0\％ \& － 1.2312 \& －0．9970 \& N／A \& 0．98990 \& N／ \& NA \& | $4.499 \%$ |
| :--- |
| $4.49 \%$ | \& －0．0912 <br>

\hline \& ${ }_{2073}^{2072}$ \& \& \& N／A \& \& \& \& NA \& － \& 0．09970 \& NAA \& 0．989900 \& N／A \& NA ${ }^{\text {NA }}$ \& ${ }_{4}^{4.49 \%}$ \& ${ }_{0}^{0.08735}$ <br>
\hline \& 2074 \& \& － \& N／A \& \& \& － \& N／A \& 1.2312 \& 0.9970 \& N／A \& ${ }^{0} .98990$ \& N／A \& N／A \& 4．49\％ \& 0.0799 <br>
\hline \& ${ }_{2076}^{2075}$ \& \& \& N／A \& \& \& \& NA \& （1．2312 \& － 0.90970 \& N／A \& ${ }^{0.98990}$ \& N／A \& N／A \& 4．4．49\％ \& ${ }^{0.07765}$ <br>
\hline \& 77－2097 \& \& \& N／A \& \& \& \& NA \& ${ }_{1.2312}^{1.212}$ \& ${ }_{0}^{0.9970}$ \& N／A \& 0．9990 \& NA \& NA \& 4．49\％ \& － <br>

\hline \&  \& $$
\begin{aligned}
& 30,466,347 \\
& 27,78,1,51 \\
& 58,027,888
\end{aligned}
$$ \&  \& \[

$$
\begin{array}{r}
50.4 \% \\
341.9 \% \\
189.0 \%
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& 2,2,26 \\
& 16,6,76
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 42,636,792 \\
& 19,755,504 \\
& 62,391,296
\end{aligned}
$$
\] \&  \&  \& \& \& \& \& \& \& \& <br>

\hline
\end{tabular}


The prior authorized increase of $15 \%$ is isplemented stating January 1 st 2018 ．The current requested increase of $7.06 \%$ is assumed to be implemented statring April 2019 ．

## Metropolitan Life Insurance Company

## Group Policy Form: G.LTC1697, Certificate Forms: G.LTC5398 and G.LTC5498

 Comparison of Original Pricing and Current Best Estimate Assumptions
## Original Pricing Assumptions

Discount Rate
Voluntary Lapse Rates

| Policy <br> Duration | Lapse <br> Rate |
| :---: | :---: |
| 1 | $11.00 \%$ |
| 2 | $5.30 \%$ |
| 3 | $5.10 \%$ |
| 4 | $4.90 \%$ |
| 5 | $4.80 \%$ |
| 6 | $4.70 \%$ |
| 7 | $4.65 \%$ |
| 8 | $4.60 \%$ |
| 9 | $4.55 \%$ |
| $10+$ | $4.50 \%$ |

Active Life Mortality Rates Mortality was based on the 1983 Group Annuity Mortality Table adjusted to remove loading

## Morbidity:

Incidence

Continuance

## Utilization

Incidence rates for nursing home care and home health care were based on studies from the 1985 National Nursing Home Survey and 1982-84 National Long Term Care Survey, respectively, with modifications to incorporate experience of other long-term care business that MetLife issued or administered, as well as to incorporate industry expectation.

Continuance rates for nursing home care and home health care were based on studies from the 1985 National Nursing Home Survey and 1982-84 National Long Term Care Survey, respectively, with modifications to incorporate experience of other long-term care business that MetLife issued or administered, as well as to incorporate industry expectation.

Home care prevalence rates were based on 1982-1984 National Long Term Care Surveys with modifications. Note that the actual utilization assumption at original pricing is not available

## Current Best Estimate Assumptions

4.49\%

| Policy <br> Duration | Lapse <br> Rate |
| :---: | :---: |
| 1 | $5.50 \%$ |
| 2 | $3.50 \%$ |
| 3 | $2.50 \%$ |
| 4 | $2.00 \%$ |
| 5 | $1.50 \%$ |
| 6 | $1.25 \%$ |
| $7+$ | $1.00 \%$ |

88\% Annuity 2000 Basic Table with Mortality Selection Factors of:

| Policy <br> Duration | Mortality <br> Selection |
| :---: | :---: |
| 1 | $25.00 \%$ |
| 2 | $50.00 \%$ |
| 3 | $55.00 \%$ |
| 4 | $65.00 \%$ |
| 5 | $70.00 \%$ |
| 6 | $75.00 \%$ |
| 7 | $80.00 \%$ |
| 8 | $85.00 \%$ |
| 9 | $90.00 \%$ |
| 10 | $95.00 \%$ |
| $11+$ | $100.00 \%$ |

Sample Ultimate Smoothed Incidence Rates (before gross-up to zero-day elimination)

| Attained | Facility Care |  | Home Care |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female |
| 81 | $1.62 \%$ | $1.89 \%$ | $1.49 \%$ | $1.41 \%$ |
| 82 | $1.93 \%$ | $2.31 \%$ | $1.79 \%$ | $1.57 \%$ |
| 83 | $2.25 \%$ | $2.75 \%$ | $1.92 \%$ | $1.76 \%$ |
| 84 | $2.44 \%$ | $3.31 \%$ | $2.24 \%$ | $1.95 \%$ |
| 85 | $2.55 \%$ | $3.85 \%$ | $2.43 \%$ | $2.18 \%$ |

Termination curves were constructed separately for deaths and recoveries, gender and car path. Coefficients to an exponential-shaped curve were based on experience adjusted to minimize differences between actual and expected terminations in total as well as at periodic duration points along the curves. Death and recovery termination rates were recombined into a single termination table for modelling and valuation uses.

| Home Care | Facility Care |
| :---: | :---: |
| $72 \%$ | $87 \%$ |

Attachment 4
Metropolitan Life Insurance Company
Actual to Expected Lapse/Mortality Individual Business
Metropolitan Life insurance Company
Group Policy Form: G.LTC1697
Actual-to-Expected Results - Lapse

| Lapse |  |  |  |
| :---: | :---: | :---: | :---: |
| Policy <br> Duration | Actual | Expected * | A/E\% |
| 1 | 6,622 | 6,653 | $99.54 \%$ |
| 2 | 3,765 | 4,040 | $93.19 \%$ |
| 3 | 2,701 | 2,795 | $96.63 \%$ |
| 4 | 2,055 | 2,177 | $94.39 \%$ |
| 5 | 1,542 | 1,595 | $96.67 \%$ |
| 6 | 1,408 | 1,301 | $108.24 \%$ |
| 7 | 1,194 | 1,018 | $117.26 \%$ |
| 8 | 1,030 | 996 | $103.39 \%$ |
| 9 | 898 | 970 | $92.62 \%$ |
| $10+$ | 3,573 | 4,395 | $81.30 \%$ |

Attachment 3
Metropolitan Life Insurance Company Group Policy Form: G.LTC1697 Actual-to-Expected Results - Mortality

| Mortality |  |  |  |
| :---: | :---: | :---: | :---: |
| Policy <br> Duration | Actual | Expected * | A/E\% |
| 1 | 536 | 541 | $99.05 \%$ |
| 2 | 924 | 1,129 | $81.85 \%$ |
| 3 | 1,110 | 1,317 | $84.25 \%$ |
| 4 | 1,316 | 1,663 | $79.12 \%$ |
| 5 | 1,532 | 1,922 | $79.73 \%$ |
| 6 | 1,694 | 2,194 | $77.22 \%$ |
| 7 | 1,859 | 2,446 | $75.99 \%$ |
| 8 | 2,052 | 2,691 | $76.24 \%$ |
| 9 | 2,105 | 2,872 | $73.29 \%$ |
| 10 | 2,268 | 3,000 | $75.61 \%$ |
| 11 | 2,270 | 3,049 | $74.45 \%$ |
| 12 | 2,125 | 2,668 | $79.64 \%$ |
| 13 | 1,883 | 2,201 | $85.57 \%$ |
| $14+$ | 4,505 | 4,701 | $95.82 \%$ |

* The expecteds are based on current best estimate assumptions.

Attachment 4
Metropolitan Life Insurance Company
Actual to Expected Incidence
Individual Business

Attachment 3
Metropolitan Life Insurance Company
Group Policy Form: G.LTC1697
Actual-to-Expected Results - Incidence

| Calendar Year | Female |  |  |  |  |  | Male |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Facility Care |  |  | Home Care |  |  | Facility Care |  |  | Home Care |  |  |
|  | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% |
| 2004 | 70 | 71 | 99\% | 64 | 58 | 110\% | 43 | 42 | 103\% | 48 | 38 | 127\% |
| 2005 | 111 | 100 | 111\% | 81 | 79 | 103\% | 57 | 59 | 96\% | 49 | 52 | 94\% |
| 2006 | 140 | 138 | 102\% | 125 | 104 | 120\% | 99 | 81 | 122\% | 83 | 70 | 119\% |
| 2007 | 185 | 178 | 104\% | 154 | 128 | 120\% | 101 | 104 | 97\% | 89 | 87 | 103\% |
| 2008 | 240 | 222 | 108\% | 174 | 151 | 115\% | 120 | 127 | 94\% | 105 | 103 | 102\% |
| 2009 | 286 | 266 | 107\% | 180 | 172 | 105\% | 142 | 148 | 96\% | 96 | 117 | 82\% |
| 2010 | 302 | 309 | 98\% | 205 | 190 | 108\% | 171 | 169 | 101\% | 122 | 131 | 93\% |
| 2011 | 351 | 352 | 100\% | 184 | 205 | 90\% | 215 | 189 | 114\% | 117 | 140 | 83\% |
| 2012 | 412 | 398 | 104\% | 220 | 220 | 100\% | 213 | 208 | 103\% | 127 | 150 | 85\% |
| 2013 | 430 | 445 | 97\% | 246 | 233 | 106\% | 233 | 228 | 102\% | 169 | 158 | 107\% |
| 2014 | 490 | 482 | 102\% | 238 | 247 | 96\% | 229 | 243 | 94\% | 176 | 167 | 105\% |
| 2015 | 499 | 522 | 96\% | 257 | 260 | 99\% | 248 | 263 | 94\% | 187 | 174 | 107\% |
| Total | 3,516 | 3,483 | 101\% | 2,128 | 2,046 | 104\% | 1,871 | 1,860 | 101\% | 1,368 | 1,385 | 99\% |

[^0]
## Attachment 4

Metropolitan Life Insurance Company Actual to Expected Claim Terminations

All Business (excl. AARP-Pru)

Attachment 3
Metropolitan Life Insurance Company
Group Policy Form: G.LTC1697
Actual-to-Expected Results - Claim Termination

| Claim Duration (Months) | Non AARP-Pru Block |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Actual Deaths | Expected <br> Deaths ${ }^{1}$ | Actual Recoveries | Expected Recoveries ${ }^{1}$ | Deaths <br> A/E\% | Recoveries A/E\% | Total A/E\% |
| 1 | 774 | 482 | 59 | 75 | 160\% | 78\% | 149\% |
| 2 | 703 | 1,197 | 156 | 233 | 59\% | 67\% | 60\% |
| 3 | 746 | 1,036 | 218 | 222 | 72\% | 98\% | 77\% |
| 4 | 834 | 1,139 | 294 | 252 | 73\% | 116\% | 81\% |
| 5 | 831 | 934 | 262 | 206 | 89\% | 127\% | 96\% |
| 6 | 726 | 816 | 196 | 179 | 89\% | 110\% | 93\% |
| 7 | 623 | 676 | 174 | 148 | 92\% | 118\% | 97\% |
| 8 | 561 | 582 | 131 | 122 | 96\% | 107\% | 98\% |
| 9 | 546 | 510 | 104 | 103 | 107\% | 101\% | 106\% |
| 10 | 465 | 459 | 114 | 88 | 101\% | 130\% | 106\% |
| 11 | 443 | 423 | 73 | 76 | 105\% | 96\% | 103\% |
| 12 | 469 | 397 | 80 | 67 | 118\% | 119\% | 118\% |
| 13+ | 11,666 | 10,750 | 1,254 | 1,365 | 109\% | 92\% | 107\% |
| Total | 19,387 | 19,402 | 3,115 | 3,137 | 100\% | 99\% | 100\% |

${ }^{1}$ The expected deaths and recoveries are based on current best estimate assumptions.

Attachment 4
Metropolitan Life Insurance Company
Nationwide Experience Projections With No Rate Increase
Actual to Expected Ratios by Duration
Group Policy Form: G.LTC. 1697

| Duration | Actual / Projected Experience ual Experience through 12/31/2016 tions based on Current Assumptions |  |  | Expected Pricing Experience roduced based on Original Pricing Assumptions since inception |  |  | $\mathrm{G}=\mathrm{C} / \mathrm{F}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | $\mathrm{C}=\mathrm{B} / \mathrm{A}$ | D | E | F = E/D |  |
|  | Earned Premium | Incurred Claims | Loss <br> Ratio | Earned Premium | Incurred Claims | Loss <br> Ratio | Actual to Expected Ratio |
| 1 | 67,792,975 | 5,621,418 | 8.3\% | 67,792,975 | 5,077,143 | 7.5\% | 1.11 |
| 2 | 126,464,050 | 11,912,919 | 9.4\% | 126,464,050 | 22,362,547 | 17.7\% | 0.53 |
| 3 | 124,453,878 | 24,031,599 | 19.3\% | 114,618,258 | 29,738,240 | 25.9\% | 0.74 |
| 4 | 123,555,915 | 35,170,452 | 28.5\% | 103,711,858 | 36,133,993 | 34.8\% | 0.82 |
| 5 | 122,909,547 | 34,721,005 | 28.2\% | 93,623,763 | 42,854,831 | 45.8\% | 0.62 |
| 6 | 122,421,571 | 43,594,720 | 35.6\% | 84,140,570 | 52,596,380 | 62.5\% | 0.57 |
| 7 | 121,827,266 | 46,669,726 | 38.3\% | 75,165,826 | 55,578,845 | 73.9\% | 0.52 |
| 8 | 120,993,045 | 53,307,915 | 44.1\% | 66,598,170 | 55,787,940 | 83.8\% | 0.53 |
| 9 | 119,798,498 | 68,593,618 | 57.3\% | 58,980,584 | 56,846,624 | 96.4\% | 0.59 |
| 10 | 118,273,804 | 68,024,413 | 57.5\% | 52,102,983 | 56,791,222 | 109.0\% | 0.53 |
| 11 | 116,637,147 | 75,511,372 | 64.7\% | 45,774,777 | 55,775,417 | 121.8\% | 0.53 |
| 12 | 114,710,946 | 85,940,042 | 74.9\% | 40,013,513 | 55,956,437 | 139.8\% | 0.54 |
| 13 | 113,105,116 | 99,881,541 | 88.3\% | 34,790,731 | 54,827,448 | 157.6\% | 0.56 |
| 14 | 112,346,540 | 105,955,751 | 94.3\% | 30,096,519 | 52,505,720 | 174.5\% | 0.54 |
| 15 | 111,935,065 | 109,393,091 | 97.7\% | 25,903,632 | 51,481,034 | 198.7\% | 0.49 |
| 16 | 110,116,283 | 122,994,148 | 111.7\% | 22,168,661 | 49,372,517 | 222.7\% | 0.50 |
| 17 | 108,102,391 | 131,807,097 | 121.9\% | 18,866,904 | 46,620,298 | 247.1\% | 0.49 |
| 18 | 105,936,379 | 142,514,730 | 134.5\% | 15,966,210 | 44,729,827 | 280.2\% | 0.48 |
| 19 | 102,102,956 | 150,401,690 | 147.3\% | 13,435,719 | 41,952,163 | 312.2\% | 0.47 |
| 20 | 96,039,050 | 160,848,928 | 167.5\% | 11,253,931 | 38,972,656 | 346.3\% | 0.48 |
| 21 | 89,209,437 | 170,163,661 | 190.7\% | 9,368,153 | 36,720,321 | 392.0\% | 0.49 |
| 22 | 82,418,830 | 179,000,127 | 217.2\% | 7,751,830 | 34,100,576 | 439.9\% | 0.49 |
| 23 | 75,770,446 | 186,948,543 | 246.7\% | 6,387,314 | 31,351,303 | 490.8\% | 0.50 |
| 24 | 69,300,671 | 193,816,436 | 279.7\% | 5,226,929 | 29,015,862 | 555.1\% | 0.50 |
| 25 | 63,043,608 | 199,294,083 | 316.1\% | 4,263,166 | 26,653,906 | 625.2\% | 0.51 |
| 26 | 57,034,336 | 203,360,615 | 356.6\% | 3,451,360 | 24,336,441 | 705.1\% | 0.51 |
| 27 | 51,302,528 | 205,913,699 | 401.4\% | 2,785,893 | 22,422,345 | 804.9\% | 0.50 |
| 28 | 45,877,040 | 206,872,137 | 450.9\% | 2,232,212 | 20,481,695 | 917.6\% | 0.49 |
| 29 | 40,778,802 | 206,242,374 | 505.8\% | 1,786,162 | 18,490,134 | 1035.2\% | 0.49 |
| 30 | 36,021,762 | 204,042,268 | 566.4\% | 1,408,312 | 16,861,002 | 1197.2\% | 0.47 |
| 31 | 31,614,916 | 200,288,229 | 633.5\% | 1,110,113 | 15,259,466 | 1374.6\% | 0.46 |
| 32 | 27,562,680 | 195,020,071 | 707.6\% | 867,891 | 13,710,605 | 1579.8\% | 0.45 |
| 33 | 23,864,338 | 188,265,268 | 788.9\% | 672,751 | 12,338,193 | 1834.0\% | 0.43 |
| 34 | 20,514,451 | 180,096,342 | 877.9\% | 522,923 | 10,938,495 | 2091.8\% | 0.42 |
| 35 | 17,502,602 | 170,546,940 | 974.4\% | 396,843 | 9,622,881 | 2424.9\% | 0.40 |
| 36 | 14,815,728 | 159,852,736 | 1078.9\% | 300,158 | 8,454,740 | 2816.8\% | 0.38 |
| 37 | 12,439,238 | 148,258,288 | 1191.9\% | 225,312 | 7,310,333 | 3244.5\% | 0.37 |
| 38 | 10,356,843 | 136,082,640 | 1313.9\% | 171,477 | 6,230,223 | 3633.3\% | 0.36 |
| 39 | 8,547,352 | 123,529,423 | 1445.2\% | 125,313 | 5,195,120 | 4145.7\% | 0.35 |
| 40 | 6,989,210 | 110,826,812 | 1585.7\% | 86,540 | 4,243,595 | 4903.6\% | 0.32 |
| 41 | 5,660,546 | 98,355,129 | 1737.6\% | 59,764 | 2,930,599 | 4903.6\% | 0.35 |
| 42 | 4,539,029 | 86,307,505 | 1901.5\% | 41,273 | 2,023,852 | 4903.6\% | 0.39 |
| 43 | 3,602,294 | 74,841,023 | 2077.6\% | 28,503 | 1,397,659 | 4903.6\% | 0.42 |
| 44 | 2,828,075 | 64,144,132 | 2268.1\% | 19,684 | 965,214 | 4903.6\% | 0.46 |
| 45 | 2,194,794 | 54,347,807 | 2476.2\% | 13,593 | 666,570 | 4903.6\% | 0.50 |
| 46 | 1,682,729 | 45,530,971 | 2705.8\% | 9,388 | 460,329 | 4903.6\% | 0.55 |
| 47 | 1,274,642 | 37,665,447 | 2955.0\% | 6,483 | 317,900 | 4903.6\% | 0.60 |
| 48 | 953,293 | 30,723,454 | 3222.9\% | 4,477 | 219,540 | 4903.6\% | 0.66 |
| 49 | 702,729 | 24,671,790 | 3510.9\% | 3,092 | 151,613 | 4903.6\% | 0.72 |
| 50 | 509,827 | 19,451,381 | 3815.3\% | 2,135 | 104,703 | 4903.6\% | 0.78 |
| 51 | 363,376 | 15,026,088 | 4135.1\% | 1,475 | 72,307 | 4903.6\% | 0.84 |
| 52 | 254,342 | 11,325,867 | 4453.0\% | 1,018 | 49,935 | 4903.6\% | 0.91 |
| 53 | 174,364 | 8,299,660 | 4760.0\% | 703 | 34,485 | 4903.6\% | 0.97 |
| 54 | 116,471 | 5,896,421 | 5062.6\% | 486 | 23,815 | 4903.6\% | 1.03 |
| 55 | 75,331 | 4,031,773 | 5352.1\% | 335 | 16,446 | 4903.6\% | 1.09 |
| 56 | 46,885 | 2,642,556 | 5636.2\% | 232 | 11,358 | 4903.6\% | 1.15 |
| 57 | 27,909 | 1,633,334 | 5852.4\% | 160 | 7,844 | 4903.6\% | 1.19 |
| 58 | 15,713 | 954,560 | 6074.8\% | 110 | 5,417 | 4903.6\% | 1.24 |
| 59 | 8,269 | 536,078 | 6483.0\% | 76 | 3,741 | 4903.6\% | 1.32 |
| 60 | 4,043 | 303,367 | 7504.2\% | 53 | 2,583 | 4903.6\% | 1.53 |


| Lifetime | $3,069,521,902$ | $5,732,005,211$ | $186.7 \%$ | $1,150,803,327$ | $1,269,164,426$ | $110.3 \%$ | 1.69 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lifetime $^{*}$ | $1,728,372,564$ | $1,947,750,031$ | $112.7 \%$ | $754,427,670$ | $550,745,795$ | $73.0 \%$ | 1.54 |

Note:

- Figures in column A are normalized to reflect the prior rate action authorized by MD (15\% on October 10,2017) rather than the prior rate action approved by other states.
Figures in column $A$ and $D$ do not reflect any rate action previously authorized by MD
* Columns $A$ and $B$ are discounted back to the inception date at an interest rate of $4.49 \%$, which is the weighted average maximum valuation interest rate for contract reserves. Columns $D$ and $E$ are discounted back to the inception date at the original pricing interest rate of $6.25 \%$,

Attachment 5





[^0]:    ${ }^{1}$ Based on actual experience through 6/30/2016 including adjustments for incurred but not reported claims.
    ${ }^{2}$ The expected claims are based on current best estimate assumptions.

