LIFE ACTUARIAL (A) TASK FORCE

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Draft Pending Adoption

Draft: 4/8/24

Life Actuarial (A) Task Force
Indianapolis, Indiana
March 22–23, 2025

The Life Actuarial (A) Task Force met in Indianapolis, IN, March 22–23, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak and Kevin Clark (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Angela L. Nelson represented by William Leung (MO); Eric Dunning represented by Michael Muldoon (NE); Justin Zimmerman represented by Seong-min Eom and David Wolf (NJ); Adrienne A. Harris represented by William B. Carmello (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andy Schallhorn (OK); Michael Humphreys represented by Steve Boston and Dave Yanick (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Adopted its March 6, 2025; Feb. 20, 2025; Feb. 6, 2025; Jan. 30, 2025; Jan. 23, 2025; Jan. 16, 2025; and Dec. 12, 2024, Minutes and the Reports of the Experience Reporting (A) Subgroup, Variable Annuities Capital and Reserve (E/A) Subgroup, and Longevity Risk (E/A) Subgroup

The Task Force met March 6, 2025; Feb. 20, 2025; Feb. 6, 2025; Jan. 30, 2025; Jan. 23, 2025; Jan. 16, 2025; and Dec. 12, 2024. During these meetings, the Task Force took the following action: 1) exposed amendment proposal form (APF) 2025-03, which modifies the Valuation Manual (VM)-20, Requirements for Principle-Based Reserves for Life Products, universal life with secondary guarantee (ULSG) lapse assumption for policies with minimal cash surrender value (CSV) so that the required industry table is a guardrail rather than a prescribed assumption; 2) exposed APF 2025-05, which modifies the guidance notes under VM-20, Section 9.G.8, and VM-21, Requirements for Principle-Based Reserves for Variable Annuities, Section 4.A.5, to provide clearer definitions and examples of what constitutes "contractually guaranteed" revenue sharing income; 3) exposed APF 2024-16, which provides additional nonforfeiture guidance for universal life products where the cash value is based on multiple sets of guarantees; 4) exposed APF 2025-01, which would ensure that the net premium reserve (NPR) mortality assumption for higher anticipated mortality policies would be the anticipated experience plus a margin when the company mortality is higher than the prescribed mortality rates; 5) exposed APF 2025-02, which clarifies the rounding rules associated with the calculation of rates from the *Standard Valuation Law* (#820) and *Standard Nonforfeiture Law for Life Insurance* (#808); 6) exposed revisions to the Asset Adequacy Testing for Reinsurance Actuarial Guideline (AG ReAAT) draft; 7) exposed Appointed Actuary and Illustration Actuary Knowledge Statements; 8) adopted APF 2024-13, which clarifies the reflection of negative interest maintenance reserves (IMRs); 9) adopted APF 2024-15, which corrects the application of mortality in the VM-21 standard projection amount (SPA) where there is little or no company experience; and 10) adopted its 2024 Fall National Meeting minutes.

The Task Force reviewed the reports of the Variable Annuities Capital and Reserve (E/A) Subgroup, Experience Reporting (A) Subgroup, and Longevity Risk (E/A) Subgroup.

Chupp noted some editorial corrections that needed to be made to the Task Force's March 6 meeting minutes.

Chupp made a motion, seconded by Yanacheak, to adopt the Task Force's March 6, 2025 (Attachment One); Feb. 20, 2025 (Attachment Two); Feb. 6, 2025 (Attachment Three); Jan. 30, 2025 (Attachment Four); Jan. 23, 2025

(Attachment Five); Jan. 16, 2025 (Attachment Six); and Dec. 12, 2024 (Attachment Seven) minutes, with the corrections noted by Chupp and the reports of the Variable Annuities Capital and Reserve (E/A) Subgroup (Attachment Eight) and its Feb. 20, 2025, minutes (Attachment Nine), the Experience Reporting (A) Subgroup (Attachment Ten) and its Dec. 16, 2024, minutes (Attachment Eleven), and the Longevity Risk (E/A) Subgroup (Attachment Twelve). The motion passed unanimously.

2. Adopted the Report of the VM-22 (A) Subgroup and Heard a Presentation on VM-22 Field Test Results

Slutsker walked through the report of the VM-22 (A) Subgroup. The Subgroup met March 12, 2025; March 5, 2025; Feb. 26, 2025; Feb. 19, 2025; Feb. 12, 2025; Feb. 5, 2025; Dec. 11, 2024; and Dec. 4, 2024. During these meetings, the Subgroup took the following action: 1) adopted the SPA as a disclosure requirement under VM-22, Requirements for Principle-Based Reserves for Non-Variable Annuities; 2) adopted a 1% mortality improvement sensitivity for the Stochastic Exclusion Ratio Test (SERT); 3) adopted the Texas Department of Insurance (TDI) VM-22 reinvestment guardrail proposal of 5% Treasuries, 15% AA, and 80% A; 4) adopted a 6% threshold for the SERT under VM-22; 5) discussed VM-22 field test results; 6) exposed a request for other revisions to the VM-22 framework for a 40-day public comment period that ended March 17; 7) exposed edits to policyholder behavior assumption in the VM-22 SPA draft for a 28-day public comment period that ended March 26; and 8) adopted a longevity reinsurance transaction (LRT) flooring methodology of 2% of annual longevity benefits floor at the scenario reserve level proposed by New Jersey and the American Council of Life Insurers' (ACLI's) allocation methodology proposal, with a change to the proposal to make it so there is a floor within the allocation methodology at 2% of annual longevity benefits.

Steve Jackson (American Academy of Actuaries—Academy) and Angela McShane (Ernst & Young—EY) delivered a presentation (Attachment Thirteen) on VM-22 field test results. After discussion of the reinvestment guardrail sensitivity, Serbinowski asked for more information on some companies experiencing an increase in reserves when using the required sensitivity with a lower credit quality reinvestment portfolio compared to the higher credit quality baseline. McShane replied that the increase was immaterial for some companies, but one company had a more significant impact. Slutsker added that he had seen this occur in VM-21 and that it was often related to hedging. Hemphill noted that further discussion might be needed on the language around the guardrail, given the potential for a company's actual reinvestment strategy to produce more conservative results than the reinvestment guardrail. Slutsker agreed. Chou asked whether more testing would be performed to understand the impacts on capital from using the VM-22 framework. Slutsker responded that this will be discussed at the Life Risk-Based Capital (E) Working Group's session at the Spring National Meeting.

Slutsker made a motion, seconded by Reedy, to adopt the report of the VM-22 (A) Subgroup (Attachment Fourteen), including its March 12, 2025 (Attachment Fifteen); March 5, 2025 (Attachment Sixteen); Feb. 26, 2025 (Attachment Seventeen); Feb. 19, 2025 (Attachment Eighteen); Feb. 12, 2025 (Attachment Nineteen); Feb. 5, 2025 (Attachment Twenty); Dec. 11, 2024 (Attachment Twenty-One); and Dec. 4, 2024 (Attachment Twenty-Two) minutes. Hemphill suggested correcting the March 12 minutes by removing her name from the participant list. Slutsker and Reedy agreed to add that correction to the motion. While discussing the motion, Weber asked how he should interpret the close vote at the Subgroup regarding whether the SPA was used as a floor or a disclosure item. Slutsker replied that the Subgroup's recommendation would be consistent with its vote to make the SPA disclosure-only but that the Task Force could revisit it. Hemphill noted that she felt that the VM-21 SPA was working very well as a binding floor and that she had some concerns about the quality of SPA submissions if it was disclosure-only. The motion passed unanimously.

3. Heard a Presentation on VM-20 HMI and FMI Factors

Marianne Purushotham (Society of Actuaries—SOA) delivered a presentation (Attachment Twenty-Three) discussing the SOA Mortality Improvement Life Working Group's work to develop the 2025 recommendation for

historical mortality improvement (HMI) and future mortality improvement (FMI) factors for use in VM-20. Chou asked whether the Mortality Improvement Life Working Group had considered doing a study to understand the impact of opioids on mortality improvement. Purushotham responded that her group has been reviewing general population cause of death data, including from opioids, to understand how to adjust the FMI for their recommendation. Slutsker asked whether any of the Mortality Improvement Life Working Group's work could be utilized for annuities and, if not, whether the SOA had considered doing a study to understand longevity risk. Purushotham noted that the data was only intended for individual life insurance but that the Mortality Improvement Life Working Group has worked with another SOA group that focuses on annuity mortality to develop consistent approaches to developing mortality improvement. Andersen asked whether the SOA had considered federal government changes in their recommendation, as changes in the federal government could mean funding cuts to health initiatives. Purushotham noted that her group's main concern at this time is getting the mortality data from the U.S. Social Security Administration (SSA) in a timely fashion. Hemphill noted that this could be a follow-up question for the upcoming SOA Research and Education presentation.

4. Adopted the Report of the GOES (E/A) Subgroup and Discussed APF 2025-04

Brian Bayerle (American Council of Life Insurers—ACLI) walked through the ACLI's comment letter on APF 2025-04 (Attachment Twenty-Four), noting that the ACLI's main concern was with allowing for a three-year transition period to smooth reserve and capital impacts resulting from the implementation of the generator of economic scenarios (GOES). Hemphill asked whether the ACLI would propose similar language to what was included in VM-21. Bayerle replied that the ACLI would provide recommended language.

Scott O'Neal (NAIC) then walked through a presentation (Attachment Twenty-Five) that highlighted key decisions that were: 1) needed to implement the GOES into VM-20 and VM-21; and 2) provided next steps for the GOES project. O'Neal discussed the proposed language to bring scenario reduction under the simplifications, approximations, and modeling efficiency technique requirements of both VM-20 and VM-21. Yanacheak and Slutsker noted their support. Chang said he supported the scenario selection language but wanted to ensure that companies use a consistent scenario selection approach and number of scenarios from period to period. Hemphill asked if any Task Force members objected to the revised scenario reduction language. None responded.

Cameron Sakurai (Oliver Wyman) then walked through SERT model office testing results for a ULSG product in order to support Task Force decision-making on the VM-20 SERT scenarios. O'Neal then summarized some of the 2024 GOES field test SERT results. Hemphill noted: 1) her concern with the SERT not truly highlighting sensitivity to varying economic conditions in a prudent-estimate valuation given that the SERT was performed on a best-estimate basis; and 2) her support for additional flexibility to address economic volatility using the stochastic exclusion test (SET) certification method. Cheung said he did not support changing the threshold for the SERT scenario as he felt the prior SERT scenarios were not appropriately conservative.

Weber noted that the SERT was designed to use a best-estimate basis rather than a prudent estimate, as there were concerns that inappropriate margins could result in a model segment erroneously passing. Slutsker said he was concerned that using prudent-estimate assumptions in the SERT could lead to less stability in the calculation over changing economic conditions. Cheung supported the idea of using prudent-estimate assumptions as it is more appropriate for testing model segments that are valued on a prudent-estimate basis. Hemphill asked whether any Task Force members objected to including the current language regarding the SERT basis, SET flexibility, and 6% threshold. Slutsker, Yanacheak, Eom, and Leung noted support, and no Task Force members objected.

Bayerle and Jeffrey Miklas (Northwestern Mutual) continued the presentation with the ACLI's recommendation for revisions to the deterministic reserve (DR) scenario. Yanacheak noted that he did not have any concerns with the methodology but asked about the feasibility of Conning working to implement the revised DR scenario

methodology. O'Neal responded that he had discussed the issue with Conning and that they did not see any material hurdles in implementation. Slutsker asked for additional graphs showing the actual DR scenarios compared to the academy interest rate generator (AIRG) and previous DR scenarios, which Miklas agreed to provide.

The Subgroup met Feb. 26, 2025; Feb. 12, 2025; Jan. 29, 2025; Dec. 19, 2024; and Dec. 11, 2024. During these meetings, the Subgroup took the following action: 1) referred two documents to the Variable Annuities Capital and Reserve (E/A) Subgroup and the Life Risk-Based Capital (E) Working Group to effectuate the GOES for capital calculations; 2) exposed APF 2025-04, which would update the VM economic scenario generator (ESG) references for the adoption of the Conning-maintained prescribed ESG; 3) formed a GOES Model Governance Drafting Group to develop a model governance framework; and 4) discussed revisions to the GOES and related model office testing.

Yanacheak made a motion, seconded by Chou, to adopt the report of the GOES (E/A) Subgroup, including its Feb. 26, 2025 (Attachment Twenty-Six); Feb. 12, 2025 (Attachment Twenty-Seven); Jan. 29, 2025 (Attachment Twenty-Eight); Dec. 19, 2024 (Attachment Twenty-Nine); and Dec. 11, 2024 (Attachment Thirty) minutes. The motion passed unanimously.

5. Adopted the Report of the Life and Annuity Illustration (A) Subgroup and discussed revisions to AG 49-A

Slutsker walked through a presentation (Attachment Thirty-One) that showed an issue state insurance regulators had identified where some indexed universal life (IUL) illustrations contained historical average index returns that exceeded the maximum illustrated rate under *Actuarial Guideline XLIX-A: The Application of the Life Illustrations Model Regulation to Policies with Index-Based Interest* (AG 49-A). Slutsker said that the Subgroup's intention was to expose an amendment to AG 49-A at the Subgroup level for public comment. Serbinowski supported the revisions to AG 49-A but said that over the long term, the regulations needed to move away from allowing illustrations based on past performance due to the potential for misleading illustrations. Andersen noted that this long-term solution would likely call for revisions to model regulations and may not be an actuarial issue. Andersen further stated that Task Force members are working with Life Insurance and Annuities (A) Committee leadership to determine next steps.

Slutsker made a motion, seconded by Yanacheak, to adopt the report of the Life and Annuity Illustrations (A) Subgroup. The motion passed unanimously.

6. Adopted APF 2025-01

Leung made a motion, seconded by Weber, to adopt APF 2025-01 (Attachment Thirty-Two). The motion passed unanimously.

7. Adopted a Motion to Request that Thrivent Revise APF 2025-02 to Allow for the Rounding to be Dependent on the Trend in Interest Rate Levels

Rhonda Ahrens (Thrivent) spoke to Thrivent's comment letter (Attachment Thirty-Three), noting that the current formula to set valuation interest rates is already biased downward and that, particularly in a rising interest rate environment, there is a strong downward bias due to the use of the lower of the 12-month or 36-month average. Ahrens suggested adding language to APF 2025-02 to determine the direction of rounding based on the trend in interest rates. Chou said that he preferred a unidirectional approach for simplicity. Serbinowski and Muldoon supported Ahren's approach.

Chaudhuri made a motion, seconded by Yanacheak, to draft language to incorporate the interest rate trend approach to rounding.

8. Adopted APF 2025-03

Chou made a motion, seconded by Leung, to adopt APF 2025-03 (Attachment Thirty-Four). The motion passed unanimously.

9. Re-Exposed APF 2025-05

Bayerle spoke to the ACLI's comment letter (Attachment Thirty-Five), stating that there was some complexity with respect to revenue sharing. Slutsker responded that that he preferred that: 1) the "would" that the ACLI proposed replacing with "may" be left as is to more clearly define non-guaranteed revenue sharing agreements; and 2) the "affiliated and non-affiliated" language be kept to emphasize that the language be applied to both types of situations. Additionally, Slutsker proposed language that would clarify guaranteed versus non-guaranteed revenue sharing for different investment tiers. Yanacheak suggested replacing the phrase "level of income paid" with "rate of income paid" to better reflect a change in revenue sharing.

Slutsker made a motion, seconded by Reedy, to re-expose APF 2025-05 with the revisions suggested by Slutsker and Yanacheak for a 21-day public comment period ending April 13. The motion passed unanimously.

10. Received an Update on the Review of AG 53 Reports

Andersen walked through a presentation (Attachment Thirty-Six) on state insurance regulators' reviews of *Actuarial Guideline LIII: Application of the Valuation Manual for Testing the Adequacy of Life Insurer Reserves* (AG 53). Weber asked whether additional reporting on fair values could be required under AG 53 or if it was addressed through the current guidance. Andersen replied that the approach he envisioned would be more like public communication of best practices rather than changing the guidance.

11. Heard a Presentation on the AG ReAAT Draft

Andersen delivered a presentation (Attachment Thirty-Seven) on key topics related to the AG ReAAT draft. Regarding whether to require the testing of the New York Seven (NY7) scenarios, Eom said that requiring the NY7 is not burdensome and that if other scenarios are allowed, it should only be at the commissioner's discretion. Weber stated that instead of requiring the NY7, it could be a part of the review process for the domestic regulator to request analysis performed using the NY7 if what is turned in is inadequate. Andersen said he was concerned about adding "red tape" to the process by requiring commissioner approval for deviations from the standard. Hemphill suggested additional guidance on what is needed for the equity shocks for the testing, to which Andersen replied that VM-30, Actuarial Opinion and Memorandum Requirements, could be referenced.

Peter Gould (Retired Consumer) suggested that state insurance regulators should have the right to accept or reject reporting. Douglas Brown (Aviva) proposed that the AG ReAAT should not include elements that are not already present in asset adequacy testing (AAT) for retained business, such as requiring the NY7.

Andersen then introduced the issue of scoping out clearly non-affiliated transactions with substantial safeguards using the "Associated Party" definition in the current AG ReAAT draft. Bayerle said that the ACLI had concerns with the "Associated Party" terminology due to inconsistency with other definitions established in model laws and the potential to disincentivize new market entrants. Andersen replied that the less descriptive the range of acceptable exemptions is in the AG ReAAT, the greater the potential to not scope in treaties that are of interest to state insurance regulators. Yanacheak supported utilizing the already established "Affiliate" terminology.

Hemphill suggested removing the "Associated Party" definition and instead putting the related requirements into the scope section of the AG ReAAT, which Wolf supported. Andersen said he would incorporate Hemphill's idea into a new AG ReAAT draft.

Andersen discussed the starting asset amount to use for the mandatory and optional runs. Jason Kehrberg (Academy) stated that the term "post-reinsurance reserve" could be confusing given other uses of the term in VM-20 and elsewhere and instead suggested using the term "tested reserve amount." Andersen asked the Task Force if any member wanted to change the "post-reinsurance reserve" term as Kehrberg suggested, and none responded.

Cheung asked if there would be any mention of analysis limitations in the AG ReAAT, giving the example of a situation where the ceding company does not have all of the information on the reserve or assets held by the assuming company. Andersen said that he could add language to the next draft of the AG ReAAT to clarify that the work in the first year would be done on a best-effort basis to meet the requirements.

Greg Mitchell (Cayman International Reinsurance Companies Association—CIRCA) noted concerns with the mandatory run, given that: 1) all Cayman reinsurance transactions originating from a U.S.-domiciled company are fully collateralized; and 2) most transactions are modified coinsurance (modco) where the assets are held on the balance sheet of the ceding company. Andersen noted that the terminology "mandatory run" does not necessarily imply that regulators would take action based solely on that run; instead, it was meant to convey that it is required. Reedy commented that the quality of the disclosures will support state insurance regulator education on the company. Wolf said that just because an assuming company is holding the full U.S. statutory reserve does not necessarily mean the reserves are adequate.

Andersen then brought up the issue of whether regulators would allow a similar memorandum to be filed rather than the VM-30 report. Bayerle said that the ceding company may not have a lot of say in what kind of regulatory reporting the assuming company provides, and that should not be held against the cedant. Hemphill said it is not a workable concept if state insurance regulators cannot readily understand a similar memorandum. Cheung said that one issue that had not been fully considered was the granularity of the reporting that could be performed in similar memorandums. Cheung continued that if an assuming company performs its testing on the aggregated blocks of business from multiple cedants, it would be impossible for a state insurance regulator to accept that reporting. Bayerle replied that supplementary information could be provided in that situation and that there could be issues with the covered agreements if similar memorandums are not allowed. Hemphill suggested that the Task Force meet in regulator-only sessions where volunteer companies could provide examples of similar memorandums that they feel could work for the AG ReAAT. Slutsker said that uniformity was crucial from a review perspective but that the concept would be viable if there were just a few formats of similar memorandums. Regarding the use of conservative asset returns in lieu of actual assets, Reedy said there at least needed to be disclosures about the actual assets.

Andersen then asked whether there were any concerns with the use of "Primary Security" terminology in the AG ReAAT. Yanacheak said that if actual assets were not modeled, he did not see the value in using the "Primary Security" concept in the AG ReAAT. Hemphill suggested that language could be added that if actual assets were unknown and conservative assets were used in the analysis, the intention of using alternative conservative assets is only to replace "Primary Security" assets. Cheung noted that there was an issue with allocation and being able to allocate specific assets across multiple cedants. Wolf said that in the first effective year of the AG ReAAT, the Task Force will learn what limitations there are to the analysis, which could lead to a referral to the Reinsurance (E) Task Force to add requirements to the treaty language. Yanacheak said that the *Credit for Reinsurance Model Law* (#785) was the problem because it specifies that all reinsurance is equal regardless of the counterparty.

Mitchell asked whether the addition of the "Primary Security" was adding an additional requirement beyond what is required in AAT for non-reinsurers. Serbinowski asked why the collateral for the analysis could not simply be used as long as a treaty has collateralized assets. Andersen said the collateralized assets only support reserves and may not support capital in other jurisdictions.

Andersen concluded by stating that he would make some edits to the AG ReAAT draft in order to expose the revised AG ReAAT draft at the Task Force's next session.

12. Heard an Update from SOA Research and Education

Dale Hall (SOA) and Anne Weber (SOA) presented the SOA Research Institute's update (Attachment Thirty-Eight). Regarding Andersen's question from the previous day, Hall noted that the SOA was monitoring changes at the federal level to understand potential impacts. Chou noted that it looked like the long-term care (LTC) study would take the most time before it was ready and asked about the scope of the study. Hall replied that the study took more time due to the different types of contingencies data collected but would provide more information on older ages than similar studies had in the past. Benchaaboun asked whether the post-level term study would also provide mortality data on older ages and whether it would provide information on actual claims paid. Hall said the study aimed to provide greater information for post-level term mortality, lapse, and claims experience. Eom asked if there was any plan to extend studies on life insurance and annuities to LTC benefit riders. Hall said that the current study looked at traditional LTC products, but they were getting more interest in LTC combination products.

Yanick asked for an update on the criminal history and mortality study. Hall said that the project's current form was an expert panel but that, down the road, actual data could be analyzed, or a predictive model could be employed.

13. Heard an Update from the Academy Council on Professionalism and Education

Darrel Knapp (Academy) spoke for the Committee on Qualifications (COQ), noting that in 2024, the COQ gathered feedback to improve the readability of the U.S. Qualification Standards, which will be taken into account in the next set of revisions. Kevin Dyke (Actuarial Standards Board—ASB) provided an update on the development of Actuarial Standards of Practice (ASOPs), including the newly proposed standard for pricing reinsurance along with potential revisions to ASOP No. 52, Principle-Based Reserves for Life Products under the NAIC Valuation Manual to provide more general guidance on life insurance and annuity products rather than just life as currently drafted in the standard. Knapp concluded by providing an update on the Actuarial Board for Counseling and Discipline (ABCD), noting that the group remained active and recently delivered its "Tales from the Dark Side" professionalism webinar.

14. Heard an Update from the Academy Life Practice Council

Katie Dzurec (Academy) delivered a presentation (Attachment Thirty-Nine) on the activities of the Academy's Life Practice Council.

15. Heard Comments Received on Academy Knowledge Statements

Donna Megregian (Academy) walked through the Academy comments (Attachment Forty) on the Illustration Actuary Knowledge Statements. Hemphill asked if there were any major areas of knowledge not covered by the Illustration Actuary Knowledge Statements. Megregian responded that the major areas are covered, but practitioners may need to seek other resources for more guidance.

Bayerle walked through the ACLI's comments (Attachment Forty-One). Hemphill asked for more details about the ACLI's comments with respect to the Appointed Actuary Knowledge Statement and reliance. Bayerle said there is a balancing act between what the appointed actuary needs to know and what they can rely on other experts for. Hemphill said that the Task Force would use the comments provided to work on revisions to the knowledge statement drafts.

16. Discussed Potential Revisions to the VM-20 and VM-21 PBR Reinvestment Guardrails and Requested Model Office Testing and Impact Analysis

Hemphill said that the VM-22 (A) Subgroup had decided to adopt an alternative principle-based reserve (PBR) reinvestment guardrail proposed by Texas and that the Task Force would consider making corresponding changes to VM-20 and VM-21. In order to support the Task Force's decision-making, Hemphill suggested that the Task Force consider requesting that: 1) NAIC staff perform model office testing using the alternative reinvestment guardrail; and 2) the ACLI request that their members perform impact testing of the alternative reinvestment guardrail using their models. Hemphill specified that the request would be to use the GOES scenarios for this testing and asked if any Task Force members objected. Slutsker supported the request and asked that testing be performed using the AIRG scenarios. Reedy supported Hemphill's and Slutsker's suggestions. No other Task Force members objected, so the request was formally made.

17. Requested Academy Input on Guaranteed YRT Reinsurance

Hemphill noted that there could be some nuance in determining whether yearly-renewable term (YRT) reinsurance was fully guaranteed and asked the Academy to provide a briefing on the types of guaranteed YRT reinsurance products currently available on the market and how the Academy sees those products falling within the current requirements. Kehrberg said the Academy had already discussed this topic and would take this request back to see what it could provide.

18. Reported its Regulator-Only Session

Hemphill disclosed that the Task Force met March 13 in regulator-to-regulator session pursuant to paragraph 3 (discussion of specific companies, entities, or individuals) of the NAIC Policy Statement on Open Meetings and noted that no action was taken.

19. Exposed Revisions to the AG ReAAT Draft

Andersen walked through changes he had made to the AG ReAAT draft.

Andersen made a motion, seconded by Chou, to expose the revised AG ReAAT draft for a 32-day public comment period ending April 24. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Committees/Member Meetings/A CMTE/LATF/2025-1 Spring/National Meeting/Minutes Packet/LATF Spring National Meeting 2025 Minutes.docx

Draft: 3/11/25

Life Actuarial (A) Task Force
Virtual Meeting
March 6, 2025

The Life Actuarial (A) Task Force met March 6, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Peter M. Fuimaono represented by Elizabeth Perri (AS): Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Vicki Schmidt represented by Nicole Boyd (KS); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Angela L. Nelson represented by William Leung (MO); Eric Dunning represented by Roy Machamire (NE); Justin Zimmerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by William B. Carmello (NY); Scott Kipper represented by Maile Campbell (NV); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andy Schallhorn (OK); Andrew R. Stolfi represented by Tashia Sizemore (OR); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Discussed its Joint Regulator-to-Regulator Session with the Statutory Accounting Principles (E) Working Group

Hemphill said that the Task Force met in joint regulator-to-regulator session on Feb. 18 with the Statutory Accounting Principles (E) Working Group pursuant to paragraph 6 (consultations with NAIC staff members related to NAIC technical guidance) of the NAIC Policy Statement on Open Meetings. No action was taken.

2. Discussed Comments Received on the AG ReAAT Draft

Andersen opened the discussion of the Asset Adequacy for Reinsurance Actuarial Guideline (AG ReAAT) draft and noted that commenters would each be able to speak on their letters.

Jason Kehrberg (American Academy of Actuaries—Academy) suggested changing the name of the "post-reinsurance reserve" to the "tested reserve amount" and noted that the Academy agreed with having a mandatory run as currently drafted and allowing the appointed actuary to perform additional runs with alternative starting asset amounts.

Brian Bayerle (American Council of Life Insurers—ACLI) said that the ACLI had proposed several simplifying revisions to the AG ReAAT draft in recognition that there would be much learning from companies and state insurance regulators in the first year of implementation. Bayerle emphasized that the domestic regulator should be able to accept alternative forms of analysis, with supplementary information as necessary. Bayerle lastly mentioned that the scope should be limited to transactions occurring in 2020 and later, with allowance for the domestic regulator to consider beyond that timeline if needed.

Peter Gould (Retired Annuity Consumer) said that state insurance regulators should have a central repository of asset-intensive reinsurance transactions regardless of the effective date and that regulators should not be required to accept alternative analyses.

Ben Leiser (Risk & Regulatory Consulting LLC—RRC) said that the scope of the AG ReAAT should be based on risk and not affiliated status. Leiser continued that the AG ReAAT should not be disclosure-only and that assets should

not be able to be "double-counted" as backing reserves and capital. Hemphill, representing the Texas Department of Insurance (TDI), said that: 1) the asset adequacy testing (AAT) should be done separately by counterparty by significant product lines; and 2) for business being valued according to principle-based reserves (PBR), documentation of the pre-reinsurance reserve that has already been completed should be sufficient for the analysis for purposes of the AG ReAAT.

Andersen then discussed key topics from the AG ReAAT draft, starting with whether the New York Seven (NY7) scenarios should be required as part of the analysis. He said he estimated that approximately 95% of companies use the NY7 scenarios in the Valuation Manual (VM)-30, Actuarial Opinion and Memorandum Requirements filings and that use of the NY7 scenarios was helpful to state insurance regulators to understand reinvestment and disintermediation risks. Bayerle replied that business reinsured to other jurisdictions had very different requirements; however, existing analyses that may not include the NY7 scenarios could be useful to state insurance regulators to understand disintermediation and reinvestment risks. Andersen suggested revising the AG ReAAT draft to state that the analysis must clearly illustrate reinvestment and disintermediation risks. Weber and Eom stated their support for requiring the NY7, but Cheung and Yanacheak said they felt that other similar analyses could be useful.

Next, Andersen brought up the potential to allow alternative analyses to AAT and asked if interested parties from the industry could bring up potential examples of alternative reports that could work for this purpose. Eom and Hemphill supported the idea of not allowing alternative analyses to be provided. Hemphill noted that analyses from other jurisdictions are not at the level of granularity necessary for this analysis.

Yanacheak questioned whether state insurance regulators would rather know that a block of business has sufficient reserves or that an entire company has sufficient reserves. Andersen replied that two distinct ideas in Yanacheak's question were somewhat interrelated: reinsurance collectability and reserve adequacy. Regarding reinsurance collectability, Andersen said that work was being done with *Actuarial Guideline LII: Application of the Valuation Manual for Testing the Adequacy of Life Insurer Reserves* (AG 53). Andersen then stated that the AG ReAAT was focused on reserve adequacy, which is foundational for other analyses such as reinsurance collectability.

Andersen concluded the discussion by saying that he would incorporate the feedback into a revised version of the AG ReAAT draft to be shared at the Task Force's session during the Spring National Meeting.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/03 06/Mar 06 Minutes.docx

Draft: 3/10/25

Life Actuarial (A) Task Force
Virtual Meeting
February 20, 2025

The Life Actuarial (A) Task Force met Feb. 20, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Mick Campbell represented by William Leung (MO); Eric Dunning represented by Roy Machamire (NE); Justin Zimmerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by William B. Carmello (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Exposed APF 2025-03

Hemphill introduced amendment proposal form (APF) 2025-03, which modifies the Valuation Manual (VM)-20, Requirements for Principle-Based Reserves for Life Products, universal life with secondary guarantee lapse assumption for policies with minimal cash surrender value (CSV) so that the required industry table is a guardrail rather than a prescribed assumption. Colin Masterson (American Council of Life Insurers—ACLI) asked whether a lapse study produced by the Society of Actuaries (SOA) and LIMRA had been considered. Hemphill responded that they do not have the data breakdown needed for this assumption in that report. Benchaaboun asked if it was necessary to define what minimal CSV means. Hemphill suggested reviewing principle-based reserve (PBR) actuarial reports to see if there is a consistently used definition and sending out a related question during state regulator PBR actuarial reviews.

Carmello made a motion, seconded by Leung, to expose APF 2025-03 for a 21-day public comment period ending March 12. The motion passed unanimously.

2. Exposed APF 2025-05

Hemphill walked through APF 2025-05, which modifies the guidance notes under VM-20, Section 9.G.8, and VM-21, Requirements for Principle-Based Reserves for Variable Annuities, Section 4.A.5, to provide clearer definitions and examples of what constitutes “contractually guaranteed” revenue sharing income. Carmello suggested taking the language out of a guidance note. Yanacheak asked if a question could be included in the exposure to hear comments on whether the language was appropriate to be included in a guidance note. Cheung suggested adding “affiliated or non-affiliated” in parentheses after the first mention of “entity” in each new section to clarify that both were considered in the guidance.

Yanacheak made a motion, seconded by Slutsker, to expose APF 2025-05, with the exposure question suggested by Yanacheak and the revision suggested by Cheung, for a 21-day public comment period ending March 12. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

Draft: 3/10/25

Life Actuarial (A) Task Force
Virtual Meeting
February 6, 2025

The Life Actuarial (A) Task Force met Feb. 6, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill and Jacob Allensworth (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Mick Campbell represented by William Leung (MO); Eric Dunning represented by Roy Machamire (NE); Adrienne A. Harris represented by William B. Carmello (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andy Schallhorn (OK); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Exposed APF 2024-16

Hemphill introduced amendment proposal form (APF) 2024-16, which provides additional nonforfeiture guidance for universal life products where the cash value is based on multiple sets of guarantees. Donna Megregian (American Academy of Actuaries—Academy) discussed the Academy's comment letter and recommended that a safe harbor of a single set of guarantees be allowed in the nonforfeiture demonstration. Megregian also requested that an effective date of Jan. 1, 2026, be applied for this guidance due to the challenges with demonstrating nonforfeiture compliance on older policies. Brian Bayerle (American Council of Life Insurers—ACLI) spoke to the ACLI's comment letter, noting the challenges with potentially demonstrating nonforfeiture compliance on multiple combinations of guarantees. Katie Campbell (Compact) said that she supported an effective date that included only new issues.

Yanacheak said that he was having difficulty understanding the proposed safe harbor and the potential of adding requirements that effectively state that a portion of the applicable model law does not apply. Hemphill acknowledged Yanacheak's point but noted that the intention of the guidance note is to interpret existing requirements. Benchaaboun said that the guidance note did not cross the line beyond adding clarification but asked whether putting in an effective date would trigger any additional filings. Campbell replied that the Compact had not seen very many of these types of products, but newly issued products would have to be refiled.

Weber said that the APF should only address the original issue brought up by the Compact and not provide a safe harbor. Brian Lessing (Equitable) and Ann Delaney (John Hancock) commented that compliance could be challenging without a safe harbor.

Hemphill suggested a re-exposure of APF 2024-16 with a parenthetical around the effective date. Hemphill further said that a cover letter could be added that would ask commenters how the addition of a safe harbor would or would not conflict with existing state laws.

Leung made a motion, seconded by Chupp, to expose APF 2024-16 with Hemphill's suggested revisions for a 21-day public comment period ending Feb. 26. The motion passed unanimously.

2. Exposed APF 2025-01

Allensworth introduced APF 2025-01, which would ensure that the net premium reserve (NPR) mortality assumption for higher anticipated mortality policies would be the anticipated experience plus a margin when the company mortality is higher than the prescribed mortality rates.

Chupp made a motion, seconded by Reedy, to expose APF 2025-01 for a 21-day public comment period ending Feb. 26. The motion passed unanimously.

3. Exposed APF 2025-02

Colin Masterson (ACLI) walked through APF 2025-02, which clarifies the rounding rules associated with the calculation of rates from the NAIC *Standard Valuation Law* (820) and *Standard Nonforfeiture Law for Life Insurance* (#808).

Chupp made a motion, seconded by Weber, to expose APF 2025-02 for a 21-day public comment period ending Feb. 26. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/02 06/Feb 06 Minutes.docx

Draft: 3/7/25

Life Actuarial (A) Task Force
Virtual Meeting
January 30, 2025

The Life Actuarial (A) Task Force met Jan. 30, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Peter M. Fuimaono represented by Elizabeth Perri (AS); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Mick Campbell represented by William Leung (MO); Justin Zimmerman represented by Seong-min Eom and David Wolf (NJ); Adrienne A. Harris represented by William B. Carmello (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Exposed the Revised AG ReAAT

Andersen walked through the latest revisions to the Asset Adequacy Testing for Reinsurance Actuarial Guideline (AG ReAAT) draft, including: 1) creating a definition of "associated party" to deal with issues with using the term "affiliated"; 2) adding suggested language from the American Academy of Actuaries (Academy) to note that the guideline would not define a prescriptive amount of additional reserves to be held but rather allow for actuarial judgement; 3) defining a starting asset amount for mandatory cash flow testing analysis; 4) adding additional requirements for similar memorandums; 5) requiring cash flow testing to be performed under certain circumstances; and 6) contemplating requiring that the New York Seven scenarios be included in the analysis. Wolf suggested replacing "the Appointed Actuary should consider…" with something to the effect of "the Appointed Actuary must complete…" Peter Gould (Retired Insurance Consumer) noted concern with a disclosure-only approach. Andersen replied that the disclosure-only approach was the best path for getting the AG ReAAT adopted for year-end 2025 and that the disclosures could later be used to develop guardrails as necessary. Wolf also added that nothing in the AG ReAAT would prevent state insurance regulators from requiring that companies hold additional reserves.

On the topic of the starting asset amount, Andersen highlighted a concern with including all assets in cash flow testing if there is no additional capital buffer beyond those assets. Andersen said that the revised AG ReAAT handled this by requiring the starting asset amount to be equal to the "Post-reinsurance Reserve," which is defined to be the reserve held by the ceding company plus the reserve held by the assuming company minus the amount of reserves held by the assuming company supported by assets other than primary security. Cheung suggested defining the type of reserve held by the assuming company.

Andersen then moved on to discuss situations where cash flow testing would be required. Yanacheak asked if similar analyses would be allowed or if cash flow testing specifically would be required. Andersen said that in situations where the alternative analysis was too different than cash flow testing, cash flow testing may need to be required. John Blocher (Liberty Bankers Insurance Group) noted challenges with obtaining data from reinsurers to perform the cash flow testing.

Regarding requiring the New York Seven scenarios to be tested, Cheung noted that if similar analyses to cash flow testing are allowed, they may use different scenarios than the New York Seven. Leung commented that the

guidance for retained business should be consistent with that of ceded business in terms of whether the New York Seven scenarios are required. Wolf noted a preference for companies to use the same scenarios they use for retained cash flow testing.

Andersen made a motion, seconded by Yanacheak, to expose the revised AG ReAAT for a 28-day public comment period ending Feb. 28. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/01 30/Jan 30 Minutes.docx

Draft: 3/6/25

Life Actuarial (A) Task Force
Virtual Meeting
January 23, 2025

The Life Actuarial (A) Task Force met Jan. 23, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Peter M. Fuimaono represented by Elizabeth Perri (AS); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Marie Grant represented by Nour Benchaaboun (MD); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Mick Campbell represented by William Leung (MO); Eric Dunning represented by Roy Machamire (NE); Justin Zimmerman represented by Seong-min Eom (NJ); Scott Kipper represented by Maile Campbell (NV); Adrienne A. Harris represented by William B. Carmello (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Discussed Comments Received on the AG ReAAT

Andersen said that comments on the Asset Adequacy Testing for Reinsurance Actuarial Guideline (AG ReAAT) draft would be discussed by topic. The first topic of discussion, Andersen noted, would be the current focus on affiliated transactions. Andersen said that the "affiliated" terminology had distinct meanings across statutory frameworks and suggested that a new "associated" definition be created for the AG ReAAT. Cheung asked how the date for inclusion of the "associated" treaties was determined. Andersen responded that state insurance regulators have access to specific information on treaties and that the choice of date was determined in order to include the majority of the treaties of concern. Brian Bayerle (American Council of Life Insurers—ACLI) noted that regardless of the affiliated or associated terminology, the ACLI had concerns with appointed actuaries having access to the necessary data for the analysis. Bayerle suggested allowing for disclosures as a solution to the potential data limitations. Jeff Alton (Reinsurance Association of America—RAA) suggested that the Task Force engage with the Statutory Accounting Principles (E) Working Group to work on the terminology and understand any secondary impacts from changing definitions.

Andersen then discussed the American Academy of Actuaries (Academy's) recommended language that would make the AG ReAAT disclosure-only and suggested the language be incorporated into the draft. Peter Gould (Retired Insurance Consumer) noted a preference for a guardrail approach rather than disclosure-only to better protect consumers. Andersen acknowledged Gould's concern but noted the desire to get the AG ReAAT in place for year-end with the potential for future enhancements later on.

Moving on to the next topic, Andersen discussed regulators' concerns that the total reserve (retained plus ceded reserves) could be lowered below what would be appropriate in a moderately adverse stress scenario as the result of a reinsurance transaction. Bayerle spoke to the ACLI's comments, suggesting that all assets available to pay policyholder claims (e.g., assets held in trust) should be included in the asset adequacy analysis. Greg Mitchell (Cayman International Reinsurance Companies Association—CIRCA) added that given all Cayman reinsurers are designated unauthorized reinsurers, all Cayman reinsurance transactions are required to have fully collateralized assets held equal to the NAIC statutory reserves. Mitchell, therefore, proposed allowing collateralized assets held by the reinsurer to be included in the ceding company's asset adequacy analysis. Andersen replied that U.S. insurers have to maintain capital in addition to reserve requirements. Tricia Matson (Risk Regulatory Consulting—

RRC) recognized Andersen's concern and added that there was the potential for the double-counting of assets used for asset adequacy analysis and counterparty risk in capital determinations.

Andersen then introduced the next topic of whether similar analyses that are readily available should be allowed to be submitted in place of asset adequacy analysis. Bayerle said that the first year of the AG ReAAT would likely be a learning opportunity, and that the ACLI felt that additional flexibility be allowed in terms of what types of reports companies could provide to meet the new requirements. Bayerle further stated that there could be issues with the covered agreements if asset adequacy analysis is required instead of allowing other potentially similar analyses. Gould suggested reviewing prior situations where insurance organizations went into receivership and determining whether asset adequacy analysis was effective in preventing this situation.

2. Received an Update on the *Accounting Practices and Procedures Manual*

Scott O'Neal (NAIC) said that the NAIC's *Accounting Practices and Procedures Manual* (AP&P Manual) was now available to download from the NAIC's website with no additional charges, with some restrictions noted in a disclaimer on the website.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/01 23/Jan 23 Minutes.docx

Draft: 2/25/25

Life Actuarial (A) Task Force
Virtual Meeting
January 16, 2025

The Life Actuarial (A) Task Force met Jan. 16, 2025. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Ann Gillespie represented by Matt Cheung (IL); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Mick Campbell represented by William Leung (MO); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimmerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by William B. Carmello and Amanda Fenwick (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Discussed Comments Received on Revised Appointed Actuary and Qualified Actuary Knowledge Statements

Hemphill noted that if the discussion yielded any changes to the knowledge statements, she would request the American Academy of Actuaries (Academy) make changes and then would perform a chair exposure to seek any additional comments. Reedy spoke to his comment letter and highlighted his concern that long-term care products are not receiving adequate coverage in the appointed actuary knowledge statements. Hemphill noted that long-term care combination products are included in *Valuation Manual* (VM)-20, Requirements for Principle-Based Reserves for Life Insurance, and Reedy's comments would, therefore, be applicable to the qualified actuary knowledge statements.

Linda Lankowski (Academy) pointed out that the understanding of critical illness, chronic illness, and accelerated death benefits was included in the qualified actuary knowledge statements. Rhonda Ahrens (Academy) said the group that drafted the knowledge statements felt it would be too much to repeat what was in the health knowledge statements for the life knowledge statements and, instead, wanted to point to the health knowledge statements. Hemphill suggested that a revision be made by the Academy to bracket the long-term-care-related statements to ensure that this information could be included regardless of what the Health Actuarial (B) Task Force eventually adopts for its health knowledge statements.

Carmello inquired about covering long-term disability benefits in the life knowledge statements. Ahrens responded that this issue pointed to why the Academy group wanted to point to the health knowledge statements rather than embed health concepts in the life knowledge, but that coordination between the Task Force and the Health Actuarial (B) Task Force would be necessary to ensure that references to concepts remain available. Hemphill requested that NAIC staff send out a formal request to the Health Actuarial (B) Task Force to request this coordination. Carmello also noted the potential for crossover between the life and property/casualty (P/C) knowledge statements, to which Hemphill responded that she would direct NAIC staff to also reach out to the Casualty Actuarial and Statistical (C) Task Force.

John Robinson (Retired—MN) walked through his comment letter, including his suggestions that: 1) the knowledge statements should be applicable to regulators who review VM-30, Actuarial Opinion and Memorandum Requirements, reports and 2) given that the NAIC annual statement does include a reference to federal tax reserves, the appointed actuary and qualified actuary knowledge statements should include tax reserves. Carmello supported the inclusion in the appointed actuary knowledge statements, noting that cash flow

testing required tax reserve knowledge. Chupp said that principle-based reserves do not include taxes, and thus tax reserve knowledge should not be on the qualified actuary knowledge statements. Hemphill stated that she would request that the Academy add tax reserves to the appointed actuary knowledge statements.

Regarding the application of the knowledge statements to regulators who review VM-30 reports, Ahrens noted that it could depend on the level of review that is being performed. Ahrens said that perhaps it could be applied to the actuary regulators who sign off on the five-year insurance company examination, but not necessarily an actuary who reviews a report off cycle. Lankowski noted that current Actuarial Standards of Practice (ASOPs) apply to reviewers of reports, and thus, additional requirements may not be necessary. Serbinowski noted concern that the knowledge statements could hinder a regulator actuary's ability to review. Hemphill noted that she would like to discuss Serbinowski's point with the NAIC legal division.

2. Discussed Illustration Actuary Knowledge Statements

Hemphill exposed the illustration actuary knowledge statements for a 45-day public comment period ending March 3.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/01 16/Jan 16 Minutes.docx

Draft: 2/13/25

Life Actuarial (A) Task Force
Virtual Meeting
December 12, 2024

The Life Actuarial (A) Task Force met Dec. 12, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimmerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Judith L. French represented by Peter Weber (OH); and Glen Mulready represented by Andrew Schallhorn (OK).

1. Adopted its 2024 Fall National Meeting Minutes

Doug Norris (Society of Actuaries—SOA) requested that a change be made to the Task Force's draft Fall National Meeting minutes to clarify details of the revisions to the SOA's Fellowship pathway.

Chupp made a motion, seconded by Reedy, to adopt the Task Force's Nov. 15–16, 2024, minutes with the change proposed by Norris (*see NAIC Proceedings – Fall 2024, Life Actuarial (A) Task Force)*. The motion passed unanimously.

2. Adopted APF 2024-13

Hemphill introduced amendment proposal form (APF) 2024-13, which clarifies the reflection of negative interest maintenance reserves (IMRs).

Chupp made a motion, seconded by Weber, to adopt APF 2024-13 (Attachment Seven-A). The motion passed unanimously.

3. Adopted APF 2024-15

Hemphill introduced APF 2024-15, which corrects the application of mortality in the *Valuation Manual* (VM)-21, Requirements for Principle-Based Reserves for Variable Annuities, standard projection amount (SPA) where there is little or no company experience.

Weber made a motion, seconded by Chupp, to adopt APF 2024-15 (Attachment Seven-B). The motion passed unanimously.

4. Exposed APF 2024-16

Naomi Kloeppersmith (Interstate Insurance Product Regulation Commission—Compact) walked through a presentation (Attachment Seven-C) that highlighted an issue with a lack of clarity on how nonforfeiture requirements should be applied to universal life (UL) products with multiple account values. Hemphill then walked through APF 2024-16, which would clarify requirements for these products. Carmello noted a concern with the

reference in APF 2024-16 to multiple sets of "accounts" and suggested that the APF should instead reference multiple sets of guarantees, expense charges, etc. After discussion, the Task Force approved Carmello's suggested changes.

Carmello made a motion, seconded by Weber, to expose APF 2024-16 with Carmello's suggested revisions for a 45-day public comment period ending Jan. 27, 2025. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/LATF Calls/12 12/Dec 12 Minutes.docx

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1. Identify yourself, your affiliation, and a very brief description (title) of the issue.

Identification:
Rachel Hemphill, Texas Department of Insurance

Title of the Issue:
Clarify reflection of negative IMR.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

VM- 20 Section 7.D.7, VM-30 Section 3.B.5, January 1, 2025 NAIC Valuation Manual

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

VM-20 7.D.7

7. Under Section 7.D.1, any PIMR balance allocated to the group of one or more policies being modeled at the projection start date is included when determining the amount of starting assets and is then subtracted out, under Section 4 and Section 5, as the final step in calculating the modeled reserves. The determination of the PIMR allocation is subject to the following:

a. The amount of PIMR allocable to each model segment is the approximate statutory interest maintenance reserve liability that would have developed for the model segment, assuming applicable capital gains taxes are excluded. The allocable PIMR may be either positive or negative.
b. In performing the allocation to each model segment, any portion of the total company IMR balance that is not admitted under statutory accounting procedures shall first be removed. The company shall use a reasonable approach to allocate the total company balance, after removing any non-admitted portion thereof, between PBR and non-PBR business and then allocate the PBR portion among model segments in an equitable fashion. Any negative IMR that is admitted must be fully allocated by line of business and cannot be allocated to surplus. In the case of negative PIMR, since a negative amount is being added when determining the starting asset amount, the amount of starting assets is reduced by the absolute value of the allocated amount of negative PIMR and the absolute value of the allocated amount of negative PIMR is then added in, under Section 4 and Section 5, as the final step in calculating the modeled reserves.
c. The company may use a simplified approach to allocate the PIMR, if the impact of the PIMR on the minimum reserve is minimal.

VM-30 Section 3.B.5

5. An appropriate allocation of assets in the amount of the IMR, whether positive or negative, shall be used in any asset adequacy analysis. In performing the allocation, any portion of the total company IMR balance

that is not admitted under statutory accounting procedures shall first be removed. However, the full amount of any negative IMR balance that is admitted must be used in the asset adequacy analysis. In the case of negative IMR, the allocated assets are reduced by the absolute value of the negative IMR. Analysis of risks regarding asset default may include an appropriate allocation of assets supporting the asset valuation reserve; these AVR assets may not be applied for any other risks with respect to reserve adequacy. Analysis of these and other risks may include assets supporting other mandatory or voluntary reserves available to the extent not used for risk analysis and reserve support.

4. State the reason for the proposed amendment? (You may do this through an attachment.)

This APF further clarifies the changes made by APF 2023-08, based on errors in reporting seen for year-end 2023. The admittance of a portion of negative IMR was based on asset adequacy analysis acting as an effective guardrail. Note that VM-21 Section 4.A.7 currently requires a treatment consistent with VM-30, and so additional guidance is not needed for VM-21.

Received	Reviewed by Staff	Distributed	Considered
08/15/2024	KK		
Notes: APF 2024 - 13. LATF exposed 8/29/2024 for 21 days. Craig Chupp (VA) 10/23/24 email commented to use PIMR instead of IMR since the PIMR, rather than IMR, is subtracted from starting assets, we should be using PIMR rather than IMR where we talk about adding/subtracting from starting			

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1. Identify yourself, your affiliation, and a very brief description (title) of the issue.

Identification:
Pete Weber, Ohio Department of Insurance
Rachel Hemphill, Texas Department of Insurance

Title of the Issue:
Make correction to VM-21 SPA mortality application, where there is little or no company experience.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

VM-21 Section 11.B.3 (Mortality)

January 1, 2025 NAIC Valuation Manual

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

VM-21 Section 11.B.3 (Mortality)

3. No Data Requirements

When little or no experience or information is available on a business segment, the company shall use expected mortality curves that would produce expected deaths no greater than the appropriate percentage (Fx) from Table 11.1 of the 2012 IAM Basic Mortality Table with Projection Scale G2 for contracts with VAGLBs and expected deaths no less than the appropriate percentage (F_x) from Table 11.1 of the 2012 IAM Basic Table with Projection Scale G2 for contracts without VAGLBs and with roll-up GDBs and all other. If mortality experience on the business segment is expected to be atypical (e.g., demographics of target markets are known to have higher [lower] mortality than typical), these "no data" mortality requirements may not be adequate.

Deleted: with VAGLBs,

4. State the reason for the proposed amendment? (You may do this through an attachment.)

This is to correct an error introduced in APF 2024-07 that unintentionally changed the industry mortality table from a ceiling to a floor for VAGLBs. The intention was only to adopt new mortality factors, not to change how they were used. For reference, here is the previous language, before APF 2024-07:

> When little or no experience or information is available on a business segment, the company shall use expected mortality curves that would produce expected deaths no less than the appropriate percentage (F_x) from Table 1 of the 2012 IAM Basic Table with Projection Scale G2 for contracts with no VAGLBs and expected deaths no greater than the appropriate percentage (F_x) from Table 1 of the 2012 IAM Basic Mortality Table with Projection Scale G2 for contracts with VAGLBs. If mortality experience on the business segment is expected to be atypical (e.g., demographics of target markets are known to have

higher [lower] mortality than typical), these "no data" mortality requirements may not be adequate.

Dates: Received	Reviewed by Staff	Distributed	Considered
10/30/24	KK		
Notes: APF 2024 - 15			

UL Nonforfeiture

- Compact is seeking clarification on the application of the nonforfeiture requirements in Models 585 and 808 to UL products

  1. How should Model 585 nonforfeiture requirements apply to contracts with multiple or alternative guaranteed contract account values?
  2. What is the applicable nonforfeiture interest rate for determining the expense allowance?

1

Focus

- Item 1 is the most immediate issue for which we are seeking guidance

  How should Model 585 nonforfeiture requirements apply to contracts with multiple or alternative guaranteed contract account values?

- Item 2 is fundamentally related to Item 1

  What is the applicable nonforfeiture interest rate for determining the expense allowance?

2

Multiple or alternative guaranteed contract account values

- Recently became aware that some companies have designed their index linked UL products to provide multiple guaranteed account values.
- The cash value in these products is the greater of the contract account value and this separate guaranteed account value, less a surrender charge. The same premium and COIs are applied to both accounts.
- One account value has specified guaranteed minimum interest rate/s and maximum administrative expense charges, and the other account value has different guaranteed minimum interest/s and or different guaranteed administrative expense charges.

3

Section 6A of Model 585

*Surrender charges are limited to **unamortized unused initial expense allowances**.*

Unamortized unused initial expense allowances are determined as follows:

1. ***Initial Expense Allowance**=Whole life initial expense allowance per Section 5cA of Model 808: EA = (.01*ELA) + 1.25 Min(PNL, .04*ELA)*
   - *ELA = Average death benefit over the first 10 policy years*
   - *PNL = Net level whole life premium.*
2. ***Initial Acquisition Expense Charges**= actual 1st year expense charge less the average administrative expense charge.*
   - *the average administrative expense charge is the average of administrative expense charges for policy years 2 through 20.*
   - *using guaranteed maximum charges (premium, per 1000, per policy)-required under the Compact standard*
3. ***Unused Initial Expense Allowance**=1. – 2.*
4. ***Unamortized Unused Initial Expense Allowances** = 3. * a_{x+t}/a_x*
   - *using mortality and interest guaranteed in the policy*

4

Section 5cA of Model 808

Subsection H: *All adjusted premiums and present values referred to in this Act shall…for all policies issued in a particular calendar year be calculated on the basis of a rate of interest **not exceeding** the nonforfeiture interest rate as defined in this section for policies issued in that calendar year.*

- *"not exceeding" the nonforfeiture interest is conservative for WL and Term since using a rate lower than the nonforfeiture rate results in higher cash values*
- *For UL the lower the rate used in determining the allowance, the larger the surrender charges and the lower the cash values*

5

Compact UL Nonforfeiture Reviews

- The historical and current practice by a significant majority of companies is to use the guaranteed interest rate (GIR) in the contract to determine the expense allowance, if lower than and instead of the nonforfeiture rate.
- This is consistent with what states have allowed.
- We suspect that this was allowed by states because of the provision in Model 808 which permits use of an interest rate that does not exceed the nonforfeiture rate for WL contracts.

6

Observations from Compact Reviews

- Over the years the guaranteed interest rates have lowered. It used to be common for the guaranteed interest rate to be about 3+% (2007) and now we see guaranteed interest rates as low as .05%.
- For indexed linked UL, the guaranteed interest rate is 0%, however, companies in general use their fixed account guaranteed interest rate for nonforfeiture compliance.
- Many companies set initial surrender charges close the initial maximum surrender charges, and some stay close to the max allowed in the first several durations, but in all cases surrender charges eventually grade off much more quickly (20 yrs or less) than would be permitted.
- Some companies do set initial surrender charges significantly lower than the maximum surrender charges.

7

Multiple Account Values
Company Example # 1

Cash Value Basis = greater of:

- Account Value 1: guaranteed minimum interest=0.5% on fixed account and 0% on indexed account
- Account Value 2: guaranteed minimum interest=5% for years 1-2 and 2.5% for years 3+.
- Impact on Initial Maximum Surrender Charge ($100,000 Face, 2017 M ANB Composite):

GIR = 0.5%	
Account Value 1	
Age	Initial Max SC
35	$ 3,409
60	$ 5,979

GIR = 5% for 2 yrs then 2.5%	
Account Value 2	
Age	Initial Max SC
35	$ 2,532
60	$ 5,031

8

Multiple Account Values
Company Example # 2

Cash Value Basis = greater of:

- Account Value 1: guaranteed minimum interest=.15%, level maximum administrative charges
- Account Value 2: guaranteed minimum interest=.15%, maximum monthly charges: $5/1000 and 8% premium for 1, 2, 3, ...up to 15 yrs
- Impact on Initial Maximum Surrender Charge ($100,000 Face, 2017 CSO M ALB Composite):

AV 1 Expenses (level)	
Account Value 1	
Age	Initial Max SC
35	$ 3,604
60	$ 6,000

AV 2 Expenses for 1 yr	
Account Value 2	
Age	Initial Max SC
35	$ 2,864
60	$ 5,260

AV 2 Expenses for 10 yrs	
Account Value 2	
Age	Initial Max SC
35	$ 3,215
60	$ 5,611

- Note: AV 2 differs due to duration of guaranteed charges.

9

Question for LATF: What interest rate(s) and expenses should be used in determining the maximum surrender charges?

- Most companies today use guaranteed minimum interest rate and guaranteed maximum expenses.
  - For multiple guaranteed accounts, companies have been demonstrating compliance based on one account's guarantees.
- A handful of companies use the nonforfeiture rate or a rate higher than the guaranteed interest rate for the expense allowance.
- **For multiple guaranteed account values, should each set of guarantees be tested for compliance? (Test each account's guarantees for the expense allowance interest rate, acquisition expenses, amortization interest rate)**

10

March 22, 2025

From: Pete Weber, Chair
The Variable Annuities Capital and Reserve (E/A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the Variable Annuities Capital and Reserve (E/A) Subgroup (VACR SG) to the Life Actuarial (A) Task Force

The VACR SG met February 20, 2025, to discuss comments that were received on draft additions to the Variable Annuities Supplement in the Annual Statement. The chair drafted Blanks changes to the Supplement that reflected some of the comments received as well as comments that were made on the call. The draft Supplement Blanks additions were exposed for a 45-day public comment period ending April 7, 2025.

The VACR SG also received a referral from the Generator of Economic Scenarios (GOES) (E/A) Subgroup on February 27, 2025. The referral asks the VACR SG to consider changes to the capital metric for the C3 Phase II calculation, if necessary, and to coordinate with the Life Risk-Based Capital (E) Working Group on any changes to the C3 Phase II metric and related changes to the Life Risk-Based Capital Blanks and Instructions. The VACR SG plans to meet after the Spring National meeting to address the referral.

Draft: 3/10/25

Variable Annuities Capital and Reserve (E/A) Subgroup
Virtual Meeting
February 20, 2025

The Variable Annuities Capital and Reserve (E/A) Subgroup of the Life Risk-Based Capital (E) Working Group and the Life Actuarial (A) Task Force met Feb. 20, 2025. The following Subgroup members participated: Peter Weber, Chair (OH); Matt Cheung, Vice Chair (IL); Thomas Reedy (CA); Philip Barlow (DC); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); William B. Carmello (NY); and Rachel Hemphill (TX).

1. Discussed Comments Received on Draft Additions to the Variable Annuities Supplement in the Annual Statement

Weber started the meeting by expressing his gratitude and welcoming Matt Cheung from Illinois to be the vice chair of the Subgroup. He then provided a recap of what the Subgroup discussed during its Oct. 18, 2024, meeting. An outline of the two new sections for the variable annuities (VA) supplement was exposed for public comment following the meeting. One of the three comments that were received was made by Cheung. He proposed to have a product category for the hybrid guaranteed minimum income benefit (GMIB) type of products. Weber said he agreed with Cheung and pointed out that the American Council of Life Insurers (ACLI) made the same comment.

Colin Masterson (ACLI) spoke to other comments that were made by the ACLI. He said the ACLI has no concern about either categorizing the reported reserve in excess of cash surrender value (CSV) under the current and prior year or splitting the CSV, stochastic reserve, and the number of contracts by different product types. However, it does have concerns about splitting the other reserve components, such as the prescribed standard projection amount, additional standard projection amount, buffer amount, and conditional tail expectation at the 70% level (CTE 70) adjusted amount by product types. He said it would be technically difficult to categorize them, as they are determined at a more aggregate level. The ACLI also thinks it would be helpful if regulators could clarify the intention of splitting the categories by the accumulation and withdrawal phases, as this does not appear to be consistent with splits on the *Valuation Manual* (VM)-22 supplement draft.

Weber said the draft blanks changes that were shared in the agenda reflect some of the comments received. They will be considered for exposure. He said this could hopefully address some of their concerns.

Cheung suggested clarifying the way the reserve components can be allocated. Weber said that it aims to balance effort with usefulness. Timothy Ritter (Jackson National Life Insurance Company) pointed out VM-21 only covers the allocation of the aggregate reserve to the contract level. He expressed his concern about how the new allocation approach would work and its complications.

Masterson continued with the ACLI's comments. He said it would be beneficial to have clearer definitions for both the accumulation and the withdrawal phases, as they are not necessarily mutually exclusive. Weber said the intention is to understand which phase the block of business is mostly in and what the block's behavior might be accordingly. He would like to hear from Subgroup members about this.

Carmello said he likes a split between the two phases. Weber asked about the ways the two phases can be broken up. Carmello said if the monthly or quarterly withdrawals are consistent, the contract should go into the withdrawal phase. Cheung said a draft could be created based on the language for withdrawing policies that is currently used in the standard projection section of the VM.

Masterson also pointed out that it is unclear whether the index-linked variable annuities (ILVAs) with guaranteed minimum death benefits (GMDBs) only should fall within the category of the VAs with GMDBs only, and he asked for some clarification. Carmello suggested combining the ILVAs with GMDBs only with ILVAs without any living benefits guarantees. The category of ILVAs without guaranteed living benefits would include both the ones with the GMDBs only and those without any living benefits guarantees. Both Weber and Cheung said they liked this suggestion.

Carmello said very few products have no guaranteed minimum death benefits, so he suggested lumping category 1.1 in with category 1.3 and deleting category 1.3 on the draft VA supplement blanks.

Masterson continued with the ACLI's last comment. He said the VA supplement should not require a company to complete additional calculations. If such calculations are necessary, some guidance should be provided in VM-21 rather than in the VA supplement. Weber said introducing additional calculations is not intended.

Weber said the adoption of the proposed VA supplement blanks is targeted for 2026 reporting.

Maambo Mujala (American Academy of Actuaries—Academy) spoke to the comments that were made by the Academy. She said a lot of the points that were raised in the comment letter had been covered. She asked the Subgroup for guidance regarding how a VA contract should be reported when its account value becomes zero, especially when this is due to withdrawals. She noted that there is a diversity of practice in the industry when this occurs and hopes clarity on this would help with the VA supplement design.

Cheung said the supplement instructions are ambiguous for the situation where a policy has an account value of zero and continues to be administered as a VA. Carmello said he does not think either guaranteed minimum withdrawal benefits (GMWBs) or GMIBs belong in the VA supplement, as they become fixed annuities when the account value is zero. He recommended excluding them entirely from this supplement. Weber said the instructions will be made clear on this.

2. Exposed Draft Blanks Changes to the Variable Annuities Supplement in the Annual Statement

Weber said the GMDBs will be deleted from categories 1.1 and 1.2 in parts 3A and 3B of the VA supplement draft, and category 1.3 will be deleted completely. He proposed an exposure for 45 days. Carmello made a motion, seconded by Cheung, to expose the draft blanks changes to the VA supplement for a 45-day public comment period ending April 7. The motion passed unanimously.

Having no further business, the Variable Annuities Capital and Reserve (E/A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1 Spring/VACR SG Calls/02 20/VACR 02-20-2025 Minutes.docx

March 22, 2025

From: Fred Andersen, Chair
The Experience Reporting (A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the Experience Reporting (A) Subgroup to the Life Actuarial (A) Task Force

The Experience Reporting (A) Subgroup met on December 16, 2024, to discuss future work on amendment proposal form (APF)-2024-12 which would require mandatory reporting of group annuity/pension risk transfer business. The Subgroup appointed a drafting group to continue the work of answering outstanding questions and refining the data file layout. The drafting group is meeting regularly and work on this APF is ongoing.

Additional upcoming projects include monitoring the plans for collecting life insurance mortality and policyholder behavior data using the NAIC as the statistical agent. Finally, the Society of Actuaries' (SOA's) Mortality and Longevity Oversight Advisory Council has formed a group to draft an APF to expand the life data collection to include much of the business that is currently out of scope (e.g. simplified issue, accelerated underwriting, guaranteed issue, etc.). The group is expected to meet with the Experience Reporting (A) Subgroup ahead of the NAIC Summer National Meeting.

Draft: 1/21/25

Experience Reporting (A) Subgroup
Virtual Meeting
December 16, 2024

The Experience Reporting (A) Subgroup of the Life Actuarial (A) Task Force met Dec. 16, 2024. The following Subgroup members participated: Fred Andersen, Chair (MN); Ahmad Kamil (CA); Wanchin Chou (CT); Nicole Boyd (KS); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill (TX).

1. Received an Update on the History of APF 2024-12

Angela McNabb (NAIC) read a paragraph from the Experience Reporting (A) Subgroup's report to the Life Actuarial (A) Task Force at the 2024 Fall National Meeting. This paragraph indicated the intention for this Subgroup to continue working to review and enhance amendment proposal form (APF) 2024-12, which would require the mandatory reporting of group annuity/pension risk transfer business.

Pat Allison (NAIC) then presented a brief history of this APF. The Task Force requested comments in early March 2024 regarding the mandatory collection of experience for group annuity mortality. Comments letters were received from the American Council of Life Insurers (ACLI), LIMRA, and the Society of Actuaries (SOA). After discussing the comment letters, the Task Force agreed that the NAIC should proceed with plans to collect group annuity experience.

APF 2024-12 was drafted to make the necessary changes to Valuation Manual (VM)-50, Experience Reporting Requirements, and VM-51, Experience Reporting Formats. The VM-50 changes include designating the NAIC as the experience reporting agent for collecting group annuity mortality and identifying controls that companies need to submit. The VM-51 changes include adding a new statistical plan for group annuity mortality and identifying the data elements to be collected.

This APF was presented to the Life Actuarial (A) Task Force at the 2024 Summer National Meeting and exposed for a 75-day public comment period. One comment letter was received from the ACLI, which had questions to clarify the scope and the meaning of various data elements.

2. Formed a Drafting Group to Continue Work on APF 2024-12

McNabb recommended that the Subgroup appoint a drafting group to continue work on APF 2024-12, to which Andersen approved. Eom agreed to head up the drafting group initially. Additional attendees from the ACLI, American Academy of Actuaries (Academy), the SOA, and industry volunteered to be a part of the drafting group.

Having no further business, the Experience Reporting (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/Exp Reporting SG Calls/12 16/December 16 Minutes.docx

March 22, 2025

From: Seong-min Eom, Chair
The Longevity Risk (E/A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the Longevity Risk (E/A) Subgroup to the Life Actuarial (A) Task Force

The Longevity Risk (E/A) Subgroup has not met since the 2024 Fall National Meeting. The subgroup will resume the meetings once the currently exposed VM-22 PBR methodology is finalized and adopted to develop and recommend longevity risk factor(s) for the product(s) that were excluded from the application of the current longevity risk factors.

VM-22 Field Test: Preliminary Summary of Participant Results

March 22, 2025
Life Actuarial (A) Task Force

American Academy of Actuaries

1

Academy and EY Collaboration: Aggregating the Field Test Results

- The VM-22 field test results have been independently aggregated, clarified, and aligned by the Academy and EY.
- EY contacted submitters, gaining valuable insight.
- Today's results, as presented by EY, reflect the collaborative effort and EY's leadership in the final stages of analysis.
- This presentation represents the publicly discussable results.
- Regulator-only briefings can be scheduled, should that be desired.

American Academy of Actuaries

2

Disclaimers

- All participant data received is treated confidentially.
- Participating companies noted varying levels of simplification used to produce field test results within the submission timeframe. Examples include using placeholder assumptions/margins, simplified asset portfolios, only running the Stochastic Reserve and not the Standard Projection Amount, and aggregating inconsistently with proposed VM-22 requirements. Best efforts have been made to analyze and aggregate data submitted by participants. The accuracy and reliability of the results are ultimately dependent on the quality of participant submissions.
- To maintain anonymity of participants per Academy standards, data and metrics for categories with fewer than five participants will not be shared publicly.

3

Overview and Status

Field Test Participant Results

The purpose of this presentation is to provide a preliminary summary of the VM-22 field test participant results.

This first presentation of results focuses on reserves, including overall impacts, sensitivities, and SERT results.

Where applicable, model office results are shown for comparison or to supplement the field test participant results.

VM-22 field test key objectives

Measure the impact on actual business of the proposed reserve and capital frameworks relative to the current standards to ensure frameworks are working as intended.

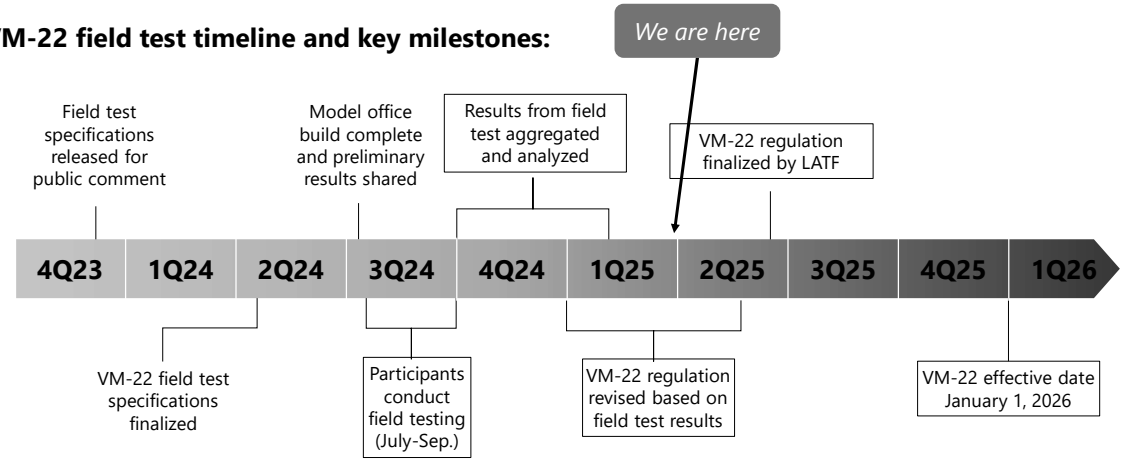
Ensure pillars of framework are met
- Appropriate Reflection of Risk
- Comprehensive
- Consistency Across Products
- Practicality and Appropriateness

Test the impact of key open VM-22 design decisions
- Aggregation
- Reinvestment guardrail mix
- Stochastic Exclusion Ratio Test threshold
- Standard Projection Amount (SPA) assumptions

4

Timeline

VM-22 field test timeline and key milestones:



American Academy of Actuaries

5

Field Test Results

American Academy of Actuaries

6

VM-22 Participant Data Submitted

The tables below show the counts of companies which submitted results for different components of the field test. Note that cells shaded in gray represent data sections which failed to reach the five-count threshold, resulting in limitations to the analysis presented in the following slides to uphold participant anonymity.

Product	Overall results	SPA results	Margin sensitivities	Reinvestment sensitivities
SPIA	8	5	2	3
PRT	6	4	1	2
SSC	5	4	1	2
FDA (no WB)	11	6	6	6
FDA (WB)	4	3	1	2
FIA (no WB)	12	7	6	6
FIA (WB)	12	6	5	5

7

Limitations in Participant Results

The accuracy and reliability of the field test results are ultimately dependent on the quality of participant submissions. There were a wide variety of limitations noted from participants which could result in materially different impacts of VM-22 once fully implemented. Below are some of the common limitations that were observed.

1. Assets

The Field Test is showing that assets are one of the key drivers of VM-22 results. Many participants used a simplified approach to allocate assets for the field test, which could have a significant impact on results in some cases. Before applying VM-22 in the future, we expect that companies will perform more analysis and refine their approach to determine the assets that will be used to back VM-22 business, potentially aligning both the asset types and duration matching to the prospective VM-22 business.

2. Standard Projection Amount

Some companies did not provide SPA results or provided SPA results on a different level of aggregation than the SR and therefore could not be analyzed on a product level. Because of this, the overall VM-22 impact from CARVM could be misestimated for those companies.

For the companies that did provide SPA results, there were some inconsistencies in the application of the prescribed assumptions. These were discussed throughout the field test Q&A process and have since been clarified in the requirements.

3. Assumptions and Margins

Many companies noted using placeholder assumptions and/or margins for the field test, and that they plan to do additional analysis to set PBR prudent estimate assumptions for VM-22.

4. PIMR

There was inconsistent treatment of PIMR across participant results. Some companies explicitly disclosed PIMR, some included it in the final reserve, some did not reflect PIMR at all. The summary of results is based on the final VM-22 reserve that participants provided.

5. Aggregation

There were some inconsistencies in the way companies aggregated results, for example including GLWB payout streams in the payout category rather than the accumulation category.

6. Business Included

The field test specification asked for at least 10 years of inforce. Some companies provided less than 10 years (e.g. if the product hasn't been sold for that long), and some companies provided significantly more than 10 years of inforce.

8

Introduction to the Overall VM-22 Results Slides

- Splits by product:
  - Payout Category: SPIA, PRT, and SSC
  - Accumulation Category: FDA (no WB), FIA (no WB), FIA (WB)
- Model office results for each product
- Total number of companies providing results
- Change in final VM-22 reserve compared to CARVM
  - Mean
  - Median
  - Standard deviation
  - Range

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

9

SPA vs. SR by Product

The tables below shows summary statistics comparing the ratio of SPA (including buffer) to the SR. A positive % indicates that the SPA is greater than the SR, while a negative % indicates that the SPA is less than the SR.

The SR is driving the final reserve more often than the SPA for most products, including those that could not be aggregated.

It is expected that most companies will refine the assumptions and margins used for the field test before adopting VM-22, which could have a significant impact on the results below.

Product Overview

Product	Model office impact
SPIA	-2.3%
FDA (no WB)	-1.0%
FIA (no WB)	1.6%
FIA (WB)	3.4%

Participant results—SPA vs. SR for VM-22

Total # of companies	# SPA =< SR	# SPA > SR	Mean	Median	Standard deviation	Range
5	5	0	-2.4%	-2.7%	1.1%	3.1%
6	5	1	-0.8%	-1.0%	1.6%	5.0%
7	5	2	-3.1%	-3.0%	6.0%	18.6%
6	3	3	1.3%	0.0%	4.0%	12.6%

Observations

- The SPA is expected to highlight outliers, so it is not surprising to see the SR dominate for most products.
- Where SPA dominates, it is challenging to pinpoint what the driver is, and whether that is due to simplifications for the Field Test, or whether that is a legitimate outcome in the results. For the WB block, it is believed that the choice in lapse assumptions drove the results in the Field Test.

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SPA vs. SR by Product

Table 1: Participant results—Unbuffered SPA vs. SR for VM-22

Product	Total # of companies	# SPA =< SR	# SPA > SR	Mean	Median	Standard deviation	Range
SPIA	5	5	0	-2.4%	-2.7%	1.1%	3.1%
FDA (no WB)	6	5	1	-0.8%	-1.0%	1.6%	5.0%
FIA (no WB)	7	5	2	-3.1%	-3.0%	6.0%	18.6%
FIA (WB)	6	3	3	1.3%	0.0%	4.0%	12.6%

Table 2: Participant results – Buffered SPA vs. SR for VM-22

Product	Total # of companies	# SPA =< SR	# SPA > SR	Mean	Median	Standard deviation	Range
SPIA	5	5	0	-2.5%	-2.8%	1.1%	3.0%
FDA (no WB)	6	5	1	-0.9%	-1.1%	1.6%	4.9%
FIA (no WB)	7	5	2	-3.6%	-3.2%	5.9%	18.3%
FIA (WB)	6	4	2	0.5%	-0.8%	3.9%	12.2%

Observations

- The tables here show summary statistics comparing the ratio of standard projection amount with and without buffer to the stochastic reserve.
- A positive % indicates that the SPA is greater than the SR, while a negative % indicates that the SPA is less than the SR.
- The SR is driving the final reserve more often than the SPA for most products, including those that could not be aggregated.
- Applying the buffer impacted the dominant reserve for one company.

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Overall VM-22 Results: Payout Category

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
SPIA	-3.4%
PRT	-3.5%
SSC	-5.7%

Participant results—CARVM vs. VM-22

Total # of companies	Mean	Median	Standard deviation	Range
8	-3.3%	-0.9%	13.8%	44.8%
6	-0.4%	-1.0%	4.7%	13.2%
5	20.9%	9.7%	30.1%	83.1%

Observations

- Model office results show a decrease in VM-22 reserves compared to CARVM, largely driven by work done in the model office to optimize the assets backing the liabilities.
- Wide range of results seen by participants, with some showing an increase in reserves under VM-22.
- From discussions with participants, this is believed to largely be driven by the selection of assets as multiple companies noted they did not spend significant time selecting or optimizing the asset portfolio for the field test.
- PRT saw a tighter range overall, which is believed to be because PRT assets are usually optimized and allocated to specific PRT deals.
- The model office grouped PRT and SSC together, so they are not directly comparable to the participant results.

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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Overall VM-22 Results: Accumulation Category

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
FDA (no WB)	0.3%
FIA (no WB)	4.6%
FIA (WB)	-16.7%

Participant results—CARVM vs. VM-22

Total # of companies	Mean	Median	Standard deviation	Range
11	2.6%	1.6%	4.6%	17.7%
12	6.3%	3.9%	7.9%	27.9%
12	-4.5%	-5.0%	8.4%	26.5%

Observations

- For FDA and FIA (no WB), most companies saw a modest increase while some saw modest decreases. From discussions with individual companies, the main driver appears to be how much effort participants put into asset optimization for the field test.
- As noted previously, the model office for FIA includes a modeling limitation related to the hedge costs and payoffs.
- Most companies saw a decrease compared to CARVM for FIA (WB). This was expected given the treatment for WB riders under CARVM.
- Some companies with FIA (WB) saw an increase, or more modest decrease. From some discussions with participants this may be explained by modeling simplifications and/or asset optimization.

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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Overall VM-22 Results: All Products

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
SPIA	-3.4%
PRT	-3.5%
SSC	-5.7%
FDA (no WB)	0.3%
FIA (no WB)	4.6%
FIA (WB)	-16.7%

Participant results—CARVM vs. VM-22

Total # of companies	Mean	Median	Standard deviation	Range
8	-3.3%	-0.9%	13.8%	44.8%
6	-0.4%	-1.0%	4.7%	13.2%
5	20.9%	9.7%	30.1%	83.1%
11	2.6%	1.6%	4.6%	17.7%
12	6.3%	3.9%	7.9%	27.9%
12	-4.5%	-5.0%	8.4%	26.5%

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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High-level Observations Summary

- **Range of results:** There was a wider range of results than was expected across all products. Every product had at least one company with an increase and one company with a decrease in reserves.
- **Selection of assets:** The assets used in VM-22 modeling are a key driver of results for all products. Given the simplified approaches that many companies took for assets, results could change materially when asset portfolios are refined. Some participants noted that the reinvestment guardrail had a significant impact on results vs. modeling their company reinvestment strategy.
- **Dominant reserve:** Where SPA results were provided, the SR is winning more often than the SPA for payouts and non-WB accumulation products. The SPA is winning more often on WB products. This is likely due to the SPA lapse assumption for WB products. 8 of the total 19 entities that participated in the field test did not provide SPA results.
- **Notable differences from model office results:**
  SSC—The model office included SSC as a subset of the PRT block but did not consider SSC as a standalone product so it's not directly comparable to participant results. SSC results also vary depending on the mix of business and inforce duration of the block, which for some participants was much longer than 10 years.
  FIA—The model office results included a topside adjustment for the cost of FIA hedges due to a limitation in GGY Axis.

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Sensitivity Results Summary

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Introduction to the Sensitivities

- The Field Test Specs asked participants to set, and disclose with results, each sensitivity's impact from mortality, policyholder behavior, expenses, hedging, non-guaranteed elements (NGEs), withdrawals, and other assumptions as deemed necessary.
- Participants were also allowed to use some default margins as described in the Specs if they did not want to use their own margins.
- There was only enough information gathered for mortality, lapse rates, expenses, and the reinvestment guardrail; these are discussed on the following slides.
- Similar to the overall results, there are a number of limitations related to sensitivities, e.g., how companies stepped into and isolated each sensitivities impact.

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Margin Sensitivities—Mortality

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. For mortality, the default margin was +/- 10%.
- Four out of the seven companies included in the analysis below used the default margin. For those who used their own company margins, the margins were <10%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test.
- Mortality margins were more impactful on accumulation products with WB vs. those without WB, but generally not material for accumulation products overall. Results for the payout category could not be shared publicly, but for the companies that provided results they were largely in line with the WB product results.

Product	# of companies	# of products	# of products > 0%	# of products =< 0%	Mean	Median	Standard deviation	Range
FA (no WB)	5	5	0	5	-0.03%	-0.01%	0.04%	0.11%
FIA (no WB)	5	5	0	5	-0.15%	-0.02%	0.21%	0.55%
FIA (WB)	5	5	1	4	-1.01%	-1.13%	0.92%	2.41%
FA + FIA (WB)	6	6	1	5	-0.97%	-0.96%	0.85%	2.41%

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Margin Sensitivities—Lapse

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. The margins provided were +/- 10% on base lapse and +/- 150% on dynamic lapse.
- Three out of the seven companies included in the analysis below used the default margin. For those who used their own company margins, one out of the seven used margins >10% and three out of the seven used margins <10%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test. For those that did provide results, we were able to aggregate the results of a base lapse sensitivity as shown below. Very few companies provided sensitivity testing on dynamic lapses and therefore results could not be aggregated.
- The base lapse margin sensitivity had an immaterial impact for most companies.

Product	# of companies	# of products	# of products > 0%	# of products =< 0%	Mean	Median	Standard deviation	Range
FA (no WB)	6	6	0	6	-0.43%	-0.27%	0.49%	1.48%
FIA (no WB)	6	6	1	5	-0.62%	-0.03%	1.32%	3.57%
FIA (WB)	5	5	1	4	-0.64%	-0.05%	1.10%	2.85%
FA + FIA (WB)	6	6	1	5	-0.54%	-0.05%	1.03%	2.85%

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Margin Sensitivities—Expenses

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. For lapse, the default margin was +/- 5%.
- Three out of the five companies included in the analysis below used the default margin. For those who disclosed their own company margins, the margins were <5%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test. The results below are aggregated across FA and FIA products without WB. We received limited results for other products that could not be aggregated, however the results were consistent across all products.
- The expense margin sensitivity had an immaterial impact for all participating companies.

Product	# of companies	# of products	# of products > 0%	# of products =< 0%	Mean	Median	Standard deviation	Range
FA + FIA (no WB)	5	8	1	7	-0.01%	-0.02%	0.01%	0.04%

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Reinvestment Guardrail Sensitivity

Background

Field test participants were asked to provide results for two reinvestment guardrail sensitivities:

- Baseline: 50% AA, 50% A
- Required Sensitivity: 5% Treasury, 15% AA, 40% A, 40% BBB
- Optional Sensitivity: 5% Treasury, 15% AA, 80% A

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test.
- Overall, the reinvestment guardrail sensitivities did not have a material impact on reserves for most companies. Five of the seven companies included in the below analysis had an impact of <1% for all products.
- The results below show the impact of the required sensitivity vs. baseline for products where we had a sufficient number of data points to aggregate results:

Product	# of companies	# of products	# of products > 0%	# of products =< 0%	Mean	Median	Standard deviation	Range
FA (no WB)	6	6	2	4	-0.13%	-0.05%	0.18%	0.51%
FIA (no WB)	6	6	1	5	-0.10%	0.00%	0.30%	0.96%
FIA (WB)	5	5	1	4	-0.41%	-0.54%	0.46%	1.17%
FA + FIA (WB)	6	7	2	5	-0.29%	-0.34%	0.46%	1.21%

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Stochastic Exclusion Ratio Test

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Stochastic Exclusion Ratio Test

Background

- Field test participants were asked to perform the Stochastic Exclusion Ratio Test (SERT) as outlined in the proposed VM-22 requirements.

Results and observations

- Many participants chose not to provide SERT results due to several factors:
  - Lack of resources to produce results in time for the field test
  - Working assumption that their business would not pass the SERT and therefore they do not plan to run it
  - Do not plan to run the SERT because they want to calculate VM-22 stochastic reserves
- Several companies provided partial results but not enough information to calculate the final SERT ratio. If any participating companies have this information available but did not submit it already, please reach out.
- As a result, field test participant SERT results could not be aggregated and shared publicly.
- For the limited data points provided, the participant SERT results were consistent with the model office results.
- Out of the 11 companies that submitted at least partial results, 10 of them used a mortality margin of +/- 5%, while 1 of them opted to use a mortality margin of +/- 10%.
- The model office SERT results (presented previously) are included on the following slide for reference.

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Stochastic Exclusion Ratio Test – Model Office

The table below summarizes the model office results of the stochastic exclusion ratio test for each product. The results in each column show the resulting ratio when "b" from the SERT ratio calculation* is calculated under the given mortality sensitivity.

The impact of applying a +/- 5% mortality margin did not materially impact the resulting ratio for the accumulation products.

Product	95% mortality factor	100% mortality factor	105% mortality factor
SPIA	5.6%	3.3%	1.2%
PRT	6.0%	3.4%	1.0%
FDA (no WB)	1.4%	1.3%	1.2%
FDA (WB)	2.2%	2.2%	2.1%
FIA (no WB)*	5.8%	5.8%	5.8%
FIA (WB)*	33.8%	33.7%	33.6%

*Exclusion test ratio = (b – a) / c

- a = adjusted reserve under the baseline scenario
- b = largest adjusted reserve under the 16 prescribed scenarios
- c = present value of benefits under the baseline scenario

**Important disclaimer for the FIA model office results*: the cost of the FIA hedges is currently accounted for via a spreadsheet topside for each scenario. The model currently incorporates the payoffs of the hedges, but not the costs. We have included the costs via topside, estimated as *option budget x AV / 12* (since there are annual resets), which are reflected in the results above and throughout this presentation. A system enhancement is in progress from the vendor.

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Capital Results Summary

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Participant Capital Results: Change in C-3 RBC

The tables below shows summary statistics on the percentage change from the old C-3 calculation to the proposed C-3 approach included in the field test instructions. Participant results have been normalized so there is equal weighting across companies. All participants used the MTA approach:

YY% x ((CTE (XX) + [Additional Standard Projection Amount] – Statutory Reserve) x (1 – Federal Income Tax Rate) – (Statutory Reserve – Tax Reserve) x Federal Income Tax Rate)

Participant results—Old C-3 vs. New C-3

Statistic	Products	# of companies	XX = 98% YY = 30%	XX = 98% YY = 25%	XX = 98% YY = 20%	XX = 95% YY = 30%	XX = 95% YY = 25%	XX = 95% YY = 20%
Mean	All	13	52%	26%	1%	-16%	-30%	-44%
Median	All	13	-5%	-21%	-37%	-59%	-66%	-72%
Standard Deviation	All	13	153%	128%	102%	104%	87%	69%
Range	All	13	501%	418%	334%	387%	322%	258%

Observations

- Companies provided capital results with varying levels of aggregation, which made it difficult to summarize results in a way that could be shared publicly. The results above summarize the total capital impact for each company, which in some cases includes a single product and others include five+ products. Some companies reflected aggregation benefits in their capital calculations while others did not.
- C3P1 results are based on AIRG scenarios while the proposed capital results are based on the same proposed GOES scenarios that were used for the VM-22 calculations in the field test.
- Companies with only accumulation products tended to see more decreases in capital, however there were a wide range of results for all product combinations.
- The results are heavily skewed by a few companies with large increases in capital. On the following slide, the summary of results is broken down for companies that had an increase vs. companies that had a decrease in reserves under the proposed XX=98% and YY%=25%.

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Participant Capital Results: Change in C-3 RBC

Participant results—Old C-3 vs. New C-3 for Companies with a Decrease in Capital under XX=98%, YY=30%

Statistic	Products	# of companies	XX = 98% YY = 30%	XX = 98% YY = 25%	XX = 98% YY = 20%	XX = 95% YY = 30%	XX = 95% YY = 25%	XX = 95% YY = 20%
Mean	All	7	-62%	-68%	-75%	-92%	-94%	-95%
Median	All	7	-77%	-80%	-84%	-96%	-97%	-98%
Standard Deviation	All	7	33%	28%	22%	19%	16%	13%
Range	All	7	99%	82%	66%	68%	57%	45%

Participant results—Old C-3 vs. New C-3 for Companies with an Increase in Capital under XX=98%, YY=30%

Statistic	Products	# of companies	XX = 98% YY = 30%	XX = 98% YY = 25%	XX = 98% YY = 20%	XX = 95% YY = 30%	XX = 95% YY = 25%	XX = 95% YY = 20%
Mean	All	6	184%	137%	89%	72%	44%	15%
Median	All	6	173%	128%	82%	24%	3%	-17%
Standard Deviation	All	6	130%	108%	87%	92%	77%	61%
Range	All	6	362%	302%	242%	260%	217%	173%

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Participant Capital Results: Comparison of CTE levels

The overall impacts from the current C-3 calculation to the proposed C-3 approach varied widely, largely due to the variances in treatment under current capital. On this slide, the table below shows summary statistics comparing CTE(98) and CTE(95) against CTE(70) to demonstrate the distribution of participants' results in the tails. Participant results have been normalized so there is equal weighting across companies.

Participant Results—CTE(XX)

Measure	Products	Number of companies	Mean	Median	Standard Deviation	Range
Percent change from CTE(70) to CTE(98)	All	13	4.3%	4.3%	2.6%	8.0%
Percent change from CTE (70) to CTE(95)	All	13	2.9%	1.9%	1.8%	5.4%

Observations

- Companies with larger tail risk—e.g. higher CTE(98) relative to CTE(70)—tended to have increases in capital under the proposed method as compared to old C-3.
- CTE(95) results were right-skewed, meaning there were some companies with large increases in relation to CTE(70) which increased the mean relative to the median. CTE(98) was more evenly distributed, but with a wider range of results. There is more variability in CTE(98) vs CTE(95), which is expected given the more extreme tail risk being considered.
- Companies with products from the payout category tended to see higher tail risk, however there was a range of results across all products.

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American Academy of Actuaries

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November 15, 2024

From: Ben Slutsker, Chairperson
Elaine Lam, Vice Chairperson
The VM-22 (A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the VM-22 (A) Subgroup to the Life Actuarial (A) Task Force

The NAIC VM-22 (A) Subgroup has met weekly since the beginning of February, as it approaches the final stretch in developing a recommended framework for the NAIC Life Actuarial (A) Task Force's consideration. The focus has been on reviewing field test results and resolving final decisions on the framework. These final decisions consist of the following:

- Longevity Reinsurance – Decided to recommend an approach of projecting anticipated cash flows with margins, placed under a separate reserving category with an additional floor set to 2% of benefits anticipated over the next 12 months, applied at the scenario reserve level in aggregate across contracts.

- Reinvestment Guardrail – After taking a vote, it was decided to recommend 5% Treasury, 15% AA, 80% A reinvestment mix. Note this reinvestment mix deviates from the current reinvestment guardrails in VM-20 and VM-21.

- Stochastic Exclusion Ratio Test (SERT) – Finalized the recommendation for an initial threshold of 6.0% for passing the SERT, as well as updating the SERT mortality sensitivities to +/-1% future mortality improvement.

- Standard Projection Amount (SPA) Policyholder Behavior Assumptions – After incorporating feedback from interested party comments, provided a re-exposure with revised assumptions for partial withdrawals, base lapse rates, and dynamic lapse formula sensitivity to in-the-moneyness. This re-exposure will be considered for adoption during the next Subgroup call.

- SPA Binding Floor vs. Disclosure-Only – Following a discussion on whether or not the Additional Standard Projection Amount (ASPA) should serve as a binding component of statutory reserves, the Subgroup ultimately voted to recommend this as a disclosure-only item.

- Payout Annuity Exemption from Exclusion Testing – Will discuss a volume threshold of payout annuity inforce business held by companies, below which companies would be eligible for automatically passing the exclusion test for certain types of payout annuities.

In addition to the items listed above, The Subgroup has provided an exposure for interested parties to request remaining framework items to revisit prior to finalizing the framework recommendation.

Precluding some remaining items above, The Subgroup has prepared proposed drafts for VM-22 requirements, the Additional Standard Projection Amount, a new VM-V section, VM-31 disclosures, the

VM-22 Supplement Blank, and various other edits to VM Section II, VM-01, and VM-G to accommodate a potential VM-22 principles-based reserving (PBR) adoption. All of these documents have been exposed, with subsequent changes made to address comments received during the exposure period.

The Subgroup is targeting a fatal flaw exposure in May for all associated documents, after which a final recommendation will be made for LATF's consideration. The target for a potential LATF adoption would be the end of June, with an effective date of 1/1/2026. The VM-22 PBR framework will include a three-year implementation period, in which companies would have up until 1/1/2029 to implement the new reserving methodology. The new requirements would be on a prospective basis, covering new business written after each company's implementation date.

Draft: 3/19/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
March 12, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met March 12, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); William B. Carmello and Michael Cebula (NY); Iris Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed the SPA as a Disclosure Requirement

Slutsker said the standard projection amount (SPA) calculation worked like the normal stochastic calculation but instead of using company assumptions, the SPA calculation used prescribed assumptions. If the CTE 70 calculated from the SPA calculations was higher than the stochastic reserve, then that CTE 70 based on prescribed assumptions would go through the buffer calculation. He stated that the decision could be revisited in a couple of years regardless of the decision to make the VM-22, Requirements for Principle-Based Reserves (PBRs) for Non-Variable Annuities, SPA a binding reserve floor or a disclosure-only item for implementation. Slutsker noted that the SPA floor rarely kicked in for VM-21, Requirements for Principle-Based Reserves for Variable Annuities.

Angela McShane (Ernst & Young—EY) provided a summary of the SPA and CTE 70 from the VM-22 field test results. EY performed a comparison of the stochastic reserve versus the unbuffered SPA and buffered SPA. She said for the most part, the SPA was usually less than the stochastic reserve when looking at the unbuffered amount. Leung asked for the magnitude of the additional amount when the SPA is larger and recommended reviewing the field test results in a regulator-only session. Steve Jackson (American Academy of Actuaries—Academy) said by looking at the range of results presented, a sense of outliers can be interpreted. Jackson said the range between the SPA and the stochastic reserve was larger for the fixed index annuity (FIA) products.

Cheung asked if the SPA assumptions were set at a moderately adverse level or average. Lam said that the SPA assumptions had no explicit margins and were intended to represent the average. Eom said the same applies to mortality. There were no explicit margins, and they would be considered average. Slutsker said the buffer was designed to catch more of the outliers by using average assumptions rather than moderately adverse assumptions.

Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI recommends the SPA be a nonbinding disclosure item. He said the SPA fails to reflect the diversity of products in the scope of VM-22 to be as effective at capturing outlier assumptions as the assumptions are currently designed. The disclosure requirement would be sufficient to meet the goal of the SPA by allowing regulators to review the reports of VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, to identify outlier companies with SPAs greater than the CTE 70. The ACLI noted concerns that a binding SPA could undermine ongoing efforts with the generator of economic scenarios (GOES) project intention to incentivize hedging as well as the reinsurance asset adequacy testing (AAT) project concerning the types of products in the scope of VM-22.

Cheung said VM-31 may need to be enhanced to collect detailed information given that the existing disclosure requirements were based on assuming an SPA floor. Slutsker said the VM-31 requirements were edited in 2024 to create a single annuities section encompassing VM-21 and VM-22, and there is a section on the SPA. Slutsker said the Subgroup may need to revisit the VM-31 edits if the SPA is a disclosure-only decision. Slutsker also said the proposed supplement to the annual statement collects data that could serve as a template for the information that could help form a repository based on annual statement information. Chueng said since there will be the ability for companies to use their best estimate assumptions as opposed to prescribed, then there should be

mandatory disclosure items if the route is disclosure only. Bayerle said the ACLI would work with the Subgroup to develop language that would get regulators what they need to understand the appropriateness of the assumptions and why it was appropriate for the company not to post a binding reserve with respect to the SPA.

Bruce Friedland (American Academy of Actuaries—Academy) said the Academy's position in 2023, when the issue was first raised, was that the SPA should be a disclosure only because it better reflected the spirit of PBR. He said the net premium reserve (NPR) binding floor under VM-20 and the SPA floor under VM-21 were implemented for different reasons. The NPR was introduced partially for tax purposes, was not initially meant to be part of the principle-based framework, and was not implemented for the same reasons as the VM-21 floor. Friedland said for VM-22, an SPA disclosure provides the information needed to identify outliers. He noted the field test results did not have enough information to decide because if the SPA was higher, it did not necessarily mean the underlying assumptions for the stochastic reserve were unreasonable or inappropriate. The Academy supported the SPA being a disclosure item at least until there was more information available.

Andy King (Oliver Wyman) said Oliver Wyman performed model office testing and waterfall attribution going from its scenario reserve to the prescribed projection amount. He said across the products they tested, the SPA was generally not binding and consistent with the VM-22 field test results. The main drivers were the lapse and mortality assumptions that resulted in the SPA being 6%-7% lower than the stochastic reserves. He said it was due to its more conservative assumptions for the withdrawal benefit block where it tried to use industry average assumptions that companies would typically assume for mortality and lapse. King said he could share the results with the Subgroup members.

Yanacheak said he did not recommend the SPA as a floor because it did not allow for the proper variation in the types of products represented. The incentives that may cause a policyholder to behave in a particular way will vary from product to product even within the same category, such as with living benefit designs, and can result in meaningless average behavior assumptions. Companies may have credible data that show an average assumption is too conservative or too aggressive. He said the situation where there is no credible experience is where the industry average is used for the SPA, and this caused him concern about relying on a floor. Regulators need to understand the risks a company is taking and the process used to arrive at the reserve assumptions. He said an SPA floor may create a false sense of security and shift attention from that understanding. Cheung said from his perspective, it would go against the spirit of PBR to force companies to use a different assumption just because the industry average was different than their fully credible assumption that can be justifiably different than the average.

Lam said a floor could come into play or be beneficial when companies have low credibility. She said she was inclined to maintain consistency with VM-20 and VM-21 due to a lack of full information and experience of how VM-22 will work in practice. Lam noted that regulators should review those assumptions very carefully, and the SPA as a floor would serve as an additional backstop that would not absolve regulators of the responsibility to review the stochastic reserve calculation. Rao-Knight suggested collecting additional data during the three-year implementation period where some companies could try to go through the exercise so that more experience data could be collected. Cebula said New York also preferred a floor.

Eom said the *Valuation Manual* amendment proposal to collect group annuity experience could help with some of the lack of data. She agreed that the wide array of the products and the average may not represent the products for which the SPA is calculated.

Slutsker requested a straw poll of Subgroup members on the question of the SPA as a binding reserve floor or a disclosure-only item. The Subgroup members voted in favor of the SPA as a disclosure item.

Having no further business, the VM-22 (A) Subgroup adjourned.

Draft: 3/19/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
March 5, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met March 5, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill and Iris Huang (TX); and Tomasz Serbinowski (UT).

1. Received a Status Report on Closed Meeting

The VM-22 (A) Subgroup met in regulator-to-regulator session March 3, 2025, pursuant to paragraph 3 (specific companies, entities, or individuals) of the NAIC Policy Statement on Open Meetings. During the meeting, the Subgroup took no action.

2. Adopted a 6% Stochastic Exclusion Ratio Test Threshold

Slutsker said regulators recommended 6% for the stochastic exclusion ratio test (SERT) threshold based on their review of company results from the VM-22, Requirements for Principle-Based Reserves (PBRs) for Non-Variable Annuities, field test, which also aligned with the SERT threshold under VM-20, Requirements for Principle-Based Reserves for Life Products. Slutsker said for fixed deferred annuities (FDAs) without guarantees, the Subgroup was comfortable with those products passing the SERT. He said in general, FDAs with guarantees and payout annuities would generally not be able to pass the SERT. The 6% threshold was conservative enough to provide room for FDAs and fixed indexed annuities (FIAs) without guarantees to pass while low enough to scope in many of the other contracts like single premium immediate annuities (SPIAs), structured settlements, and contracts with living benefits. Slutsker said the SERT would be less important in the first three years because a company could choose not to implement it until the end of the three-year optional implementation period. Slutsker noted that in addition to the SERT as an exclusion test under VM-22, there is also a certification test option that requires documentation of any rationale supporting the test as part of VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation.

Bruce Friedland (American Academy of Actuaries—Academy) said the Academy did not have information to provide recommendations, so it suggested using a placeholder threshold such as the 6% from VM-20. The Academy offered three other options: 1) using any updated threshold following a formal generator of economic scenario (GOES) adoption; 2) performing additional model office testing in cooperation with Ernst & Young (EY); and 3) following up with field test participants to get more information.

Brian Bayerle (American Council of Life Insurers—ACLI) stated the ACLI could not make a specific threshold recommendation due to a lack of publicly available data. The ACLI provided principles to consider the threshold selection: 1) it should result in negligible variation of products passing in and out of the SERT from one year to the next when the risk associated with those products has not changed; 2) it should not be selected from one model office or one company's data; and 3) modifications to the deterministic certification option may be warranted because there are going to be situations where a stochastic reserve is not going to be adding value over a deterministic reserve when there is not a true risk of volatility associated with the interest rate.

Leung made a motion, seconded by Rao-Knight, to reflect 6% as the SERT threshold in the VM-22 framework. The motion passed, with New York abstaining.

3. Adopted 1% Mortality Sensitivity for SERT

Slutsker said the purpose of the mortality sensitivity is to capture that risk factor. He said the pre-principle-based reserve Commissioners' Annuity Reserve Valuation Method (CARVM) for payout annuities used prescribed mortality tables instead of the company's own mortality with additional margin. The prescribed mortality table under CARVM may not be appropriate for a block of payout annuities and that was part of the rationale for boosting the mortality sensitivity from the 5% mortality factor in the current VM-22 draft.

Friedland said the Academy recommended keeping the 5% mortality factor for the sensitivity because the impact was not significant. The Academy noted a 5% mortality adjustment was a reasonable number because the SERT was a measure of interest and asset risk, and a change in mortality should not be the sole driver for a product being subject to a stochastic reserve. The Academy also noted in its comment letter several drivers that could change the magnitude of the 5% mortality sensitivity observed in model office results: 1) the relatively high average attained age for the model office field test block lowered the SERT result and its sensitivity to mortality shocks; 2) only life with certain for single premium immediate annuity (SPIA) were modeled and that lowered the mortality sensitivity SERT result; and 3) with VM-22 being prospective only, the sensitivity is likely to be more impactful on a single-issue year than a full block.

Slutsker said the proposal to reflect a 1% mortality improvement sensitivity would only be applied as future mortality improvement (FMI), which meant it would be the percentage of reduction compounded each year from the valuation date to that given projection year within the calculation. It does not refer to historical mortality improvement. Slutsker said with respect to FMI, there is uncertainty with a trend variable. There are different opinions among experts in the field of whether the FMI trend could be more mortality improvement or deterioration. Some of the rationale for changing to use FMI was that there is uncertainty about how future technology, different diseases, and the rate of medical advancements will impact mortality.

Slutsker summarized field test results shared publicly at the Subgroup's Feb. 5 meeting. The results showed a small impact of at most 1% under the 5% mortality factor sensitivity and even the 10% mortality factor sensitivity was not impactful. Angela McShane (EY) said EY modeled fixed annuities without guaranteed withdrawal benefits, and there was an immaterial impact from a change to using mortality improvement. She said for fixed annuities with withdrawal benefits, the SERT ratio increased a little from around 2.2% to around 3% by changing the sensitivity from a 5% scalar to a 1% mortality improvement. McShane said the results from other products were still under review.

Lam made a motion, seconded by Eom, to use the 1% future mortality improvement sensitivity in the VM-22 framework. The motion passed. New York abstained.

4. Discussed Exclusion Testing for Future Hedging Programs Supporting Indexed Credits

Slutsker said during the regulator-only meeting, a question came up regarding whether hedging programs for indexed credits should be allowed to test for exclusion. He said the Subgroup at one point was comfortable allowing fixed indexed annuities to be eligible for the exclusion test. Slutsker discussed an example that under VM-20, an indexed universal life product with a future hedging program would not be eligible for the exclusion test. Hemphill noted that allowing some exclusion testing would be a significant departure from VM-20. It would require additional VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, disclosures for documentation on hedging and a clear outline of what type of hedging would be eligible for exclusion testing. Hemphill said a new section would need to be drafted, and she was hesitant to add another area of work for the project given the timeline for implementation. Slutsker said the Subgroup could plan to allow

for it and work on drafting the SERT deviation during the phase in period. Cheung said he does not have a strong preference, but if the Subgroup decided to allow some of these products to be eligible to pass the SERT, then the eligibility scope should be narrow. Cheung noted that it may be difficult to define what would be eligible and a decision to disallow these index annuities to pass the exclusion test would be simplest from a documentation and drafting standpoint. Slutsker said the Subgroup will revisit this topic on a future call.

5. Discussed Other Matters

Hemphill said regarding the SERT, the VM-22 draft contained the current VM-20 language. She said there had been a discussion of the need to change from using anticipated experience to prudent estimate experience. She said for the SERT, there is no hedge breakage, but when the actual modeling run is done, there would be a hedge breakage assumption. She said this is another area that highlights the disconnect between doing the SERT on an anticipated basis whereas the stochastic reserve is on a prudent basis. Hemphill said she included in the GOES draft a consideration to include margins because it relates to the idea of revisiting the SERT threshold. She said she also proposed in the GOES draft to expand the documentation in VM-31 as well as be consistent with what is measured using prudent assumptions under VM-20. Slutsker said the decisions on GOES would go into VM-22 as appropriate.

Having no further business, the VM-22 (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/VM-22 Calls/03 05/Mar 5 VM22Minutes.docx

Draft: 03/20/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
February 26, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Feb. 26, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill and Iris Huang (TX) and Tomasz Serbinowski (UT).

1. Discussed Reinvestment Guardrail Proposals for VM-22

Slutsker said the Subgroup was awaiting field test results to discuss the reinvestment guardrail under the proposed VM-22, Requirements for Principle-Based Reserves for Non-Variable Annuities, and how it may align or differ from VM-20, Requirements for Principle-Based Reserves for Life Products, and VM-21, Requirements for Principle-Based Reserves for Variable Annuities. The three reinvestment guardrail options consist of fixed income assets that have the same weighted average life as the company-modeled strategy that are all public non-callable corporate bonds with gross asset spreads, asset default costs, and investment expenses by projection year that are consistent with a credit quality blend of: a) 50% AA and 50% A from the current VM-20/VM-21 reinvestment guardrail; b) 5% Treasury, 15% AA, 40% A, and 40% BBB as proposed by the American Academy of Actuaries (Academy); or c) 5% Treasury, 15% AA, and 80% A as proposed by Texas. Slutsker said the VM-22 field test model office results presented during the Life Actuarial (A) Task Force's meeting at the 2024 Fall National Meeting indicated that the impacts between the guardrail options were small. He said the VM-22 field test participant results presented at the Feb. 5 Subgroup call were also small. Carmello said that with surplus ratios as low as they are, a small impact could still have a significant impact on surplus. Angela McShane (Ernst & Young—EY) said that the C-3 Phase 1 results from the VM-22 field test were not ready to present yet.

Serbinowski said that regardless of which guardrail option the Subgroup adopted, there was no expectation that companies would reinvest that way. He said the guardrail decision would not mandate how the company could reinvest, but it would mandate what could be used for the valuation. Hemphill noted that if the reserves were higher under the company's actual reinvestment strategy, the company should use its company strategy rather than the guardrail since using the guardrail is intended to work as a minimum. Hemphill stated a company would always compare the guardrail to its actual investment strategy.

Bruce Friedland (Academy) said the Academy still recommended its proposal because it was more consistent with investment practices among the companies while maintaining conservatism by reflecting investment-grade quality. Link Richardson (Corebridge Financial) said fixed income assets like commercial mortgages, structured securities, and private placements tend to have higher yields and were not assumed in the guardrail mix and would provide another element of conservatism. Hemphill said equities were not included because the guardrail was composed only of fixed-income assets. Carmello said that a conservative approach was justified due to the uncertainty associated with future investments that have yet to be made. Hemphill agreed with Carmello.

Brian Bayerle (American Council of Life Insurers—ACLI) said ACLI preferred the Academy's proposal because it better aligned with company reinvestment strategies and the products and guarantees it supported. He indicated the guardrail would likely be binding under VM-22 since it had been binding under VM-20 and VM-21. Bayerle said the Texas proposal may be more appropriate for VM-20 and VM-21. ACLI also supported the Texas proposal as a compromise.

Cheung asked what impact the Subgroup's decision for VM-22 would have on VM-20 and VM-21. Hemphill noted that under the VM-22 project, the Subgroup has occasionally made independent decisions. She emphasized that consistency should be considered when updating *Valuation Manual* chapters unless there is a valid reason not to. She said sometimes new knowledge becomes available that may justify a deviation from the other chapters. She added that if the Subgroup picked something different, then the Subgroup should make a referral to the Life Actuarial (A) Task Force. Hemphill said she did not see a good reason for VM-20, VM-21, and VM-22 to deviate but it can be discussed during a Life Actuarial (A) Task Force proposal. Yanacheak said a project to investigate the guardrail under all three chapters was worthwhile; however, he was unable to make an informed decision that would impact VM-20 or VM-21. Scott O'Neal (NAIC) said the NAIC has models for products under VM-20 and VM-21 that could be used to analyze the reinvestment guardrail impact. Slutsker clarified that the decision from the Subgroup should come from appropriateness with respect to VM-22, and the Life Actuarial (A) Task Force would address appropriateness for VM-20 and VM-21. Richardson said if the Subgroup decided to refer to the Task Force, it should also make a referral to the Life Risk-Based Capital (E) Working Group because of C-3 testing.

Yanacheak said he was uncomfortable with the idea that changing the reinvestment strategy could reduce the liability. He recommended going with the reinvestment guardrail currently in VM-20 and VM-21 because the results for the options show small impacts. He stated that the Life Actuarial (A) Task Force could then do an investigation into a change to the guardrail because the data did not appear to support a deviation. Carmello said he also preferred using the same reinvestment guardrail currently used in VM-20 and VM-21. Lam said California supports the Texas proposal because it fell between the other two proposals. Hemphill said if the Subgroup thinks about the guardrail in isolation for VM-22, the difference does not appear to matter. She said she had a concern that the current guardrail could be overly constraining and preferred the Texas proposal that fell in the middle between the current VM-20/VM-21 guardrail and the Academy proposal. Slutsker noted that Craig Chupp (Virginia) was unable to attend the call, but Chupp had indicated a preference for the Texas option.

Cheung asked if the current 50% AA and 50% A guardrail was arbitrary or if there was significant data to justify the assumption. He said he was concerned if the Subgroup decided to deviate from the guardrail in other chapters that they could be moving away from a well-thought-out assumption. Slutsker said he was not part of the initial conversation on the VM-20 guardrail development and was unaware of a survey of assets. However, for the rates under the current VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, industry data was reviewed by NAIC. Slutsker said the intent for VM-20 was more about conservatism to limit additional spread that could get collected on top of the risk-free rate for discounting so as not to incentivize certain assumptions of reinvestment that result in higher discount rates and lower reserves.

Slutsker said a difference between cash flow testing and principle-based reserving (PBR) is that you get prescribed defaults and reinvestment spreads in PBR. Under VM-20 and VM-21, there is a VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, disclosure that shows the impact between the alternative reinvestment strategy and the company's own reinvestment assumptions. Slutsker said when he reviewed various VM-31 PBR actuarial reports, the percentage impacts aligned with the VM-22 field test results, though the significance may depend on the surplus level.

After discussion, Slutsker requested a straw poll of Subgroup members on the reinvestment guardrail. The Subgroup voted in favor of the Texas proposal of 5% Treasuries, 15% AA, and 80% A for the VM-22 reinvestment guardrail.

Having no further business, the VM-22 (A) Subgroup adjourned.

Draft: 3/14/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
February 19, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Feb. 19, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill and Iris Huang (TX) and Craig Chupp (VA).

1. Discussed Comments Received on SPA Policyholder Behavior Assumptions

A. Partial Withdrawal Assumption by Distribution Channel

Brian Bayerle (American Council of Life Insurers—ACLI) suggested that partial withdrawal assumptions vary by distribution channel. Lam said that while the withdrawal data is available by distribution channel, it would be difficult due to data availability and confidentiality. She said the question would become which assumptions could be split. Cheung noted that as long as the requirement to assess the impact of aggregation is on the additional standard projection amount (SPA) then the differentiation by distribution channel may be implicitly captured. Lam recommended retaining the current level of assumption breakdown, which does not vary by distribution channel.

B. Withdrawal Commencement for Accumulation Reserving Category with GLB—Section 6.C.4.c

Bruce Friedland (American Academy of Actuaries—Academy) recommended companies use their own best estimate assumption rather than having a forced full utilization by a certain point in time as indicated in Section 6.C.4.c because it better meets the goal of the SPA to catch outliers. Jonah von der Embse (Academy) said that a prescribed utilization assumption, as written in the prior draft, may not be conservative for some product designs.

Lam said the reason the assumption was changed to a prescribed assumption without a comparison was because commenters indicated it was difficult to compare their best estimate to the prescribed at different projection years. Lam said her new recommendation is for companies to use their best estimate but with a guardrail to ensure that a specified percentage of the contracts are withdrawing by a certain age or contract year. Lam said this recommendation is a compromise that allows flexibility to accommodate different product designs where companies may have more conservative assumptions as well as simplify implementation.

Slutsker said this approach would work like using the guardrail as replacement of assumptions rather than a comparison. Friedland (self) said he also interpreted the edits to be used as an assumption rather than a comparison or a floor by replacing the assumptions to make sure it works to meet the goals of the SPA. Bayerle said ACLI has concerns that using a company's best estimate creates an inconsistency in the framework. Bayerle said the ACLI will consider this approach and provide feedback.

Friedland (Academy) said the structure is generally consistent with the Academy proposal, but some of the contract year values in the draft were different than the last exposure in Section 6.C.4.c.i-ii. Lam stated that she updated the percentages of contracts and the contract years to align more closely with the data the VM-22 Policyholder Behavior drafting group received from LIMRA.

C. Dynamic Lapse Formula for Full Surrenders—Section 6.C.5

Lam said the dynamic lapse formula contains an in-the-moneyness (ITM) component, and there are lapse tables for guaranteed living benefits (GLBs) that also vary by ITM. Lam said these lapse rates were intended to be base lapse rates to apply to the policies and then it goes through the dynamic lapse formula. Lam said the ACLI raised a concern that the base lapse rates in the tables and the dynamic lapse formula both account for ITM. She said the ACLI also questioned the high level of the lapse rates looks incorrect.

Lam said after doing some research, she does agree the moneyness may be accounted for twice. Lam said one of the reasons the numbers may seem a little high and not be intuitive is related to the level of granularity that the data is cut so some of the cells may not have sufficient credibility. Lam said one solution may be to simplify the base lapse assumptions by eliminating the split by ITM, retaining the split by age and years-to-expiry, and addressing the ITM in the dynamic lapse formula. Slutsker said that the assumptions to use for contracts prior to utilization and after utilization may be different. Slutsker said the issue of double counting the moneyness may be resolved by answering the question of whether the dynamic lapse assumption was built on the base lapse or built independently. Lam said the drafting group will address these comments by performing additional analysis of the data.

Bayerle said the ACLI agreed with the concept that the market-value-adjustment (MVA) factor should be zero when the MVA is in effect. However, because the rate factor is additive when the MVA is not in effect when the difference between the market and crediting rates is significant, it could create a situation where the impact for the market rate would be smaller when the base lapse rates are higher and larger impacts when the base lapse rate is small. Bayerle said it may be easier to adjust the cash surrender value (CSV) based on the lapse function than the current MVA. Lam said part of the challenge with using a multiplicative factor on the base rates is that it multiplies everything else. Lam said she will perform additional reviews of the data and examples to see if it is a major issue and if there is a way to alleviate the impact. Bayerle said the ACLI will also brainstorm some ideas and see if they can come to a consensus.

Bayerle said, as structured, the lapse rates coming out of the dynamic lapse formula have a high degree of sensitivity to interest rates, and the only limit is the 90% cap. He said the 90% may work more generally, but one way to address the issue is to make the maximum lapse rate vary by product type, such as those with and without GLBs. Lam said making it more granular could minimize or restrict any one of the components, which is not the desired intent. She said it may be more efficient to review the market factor or other factors in the formula and adjust those rather than increasing the granularity of the minimums and maximums. Bayerle said ACLI would take it back to members for input.

Having no further business, the VM-22 Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/VM-22 Calls/02 19/Feb 19 VM22Minutes.docx

Draft: 03/09/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
February 12, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Feb. 12, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Seong-min Eom (NJ); William B. Carmello (NY); and Rachel Hemphill and Iris Huang (TX).

1. Discussed Reserve Floor Options and Allocation Methodology for Longevity Reinsurance Transactions

Slutsker said that the Subgroup decided during its Dec. 11, 2024, meeting to use the 2% of benefits floor approach proposed by New Jersey but did not decide when to apply the floor. The options proposed to the Subgroup were to apply the floor at a contract level, scenario level, or in aggregate.

Brian Bayerle (American Council of Life Insurers—ACLI) discussed the ACLI approach to apply the floor to the final reserve after calculating the conditional tail expectation (CTE). He said the ACLI recommends its approach because it is simple to implement, is consistent with the allocation methodology, and complies with the Subgroup's consensus to floor longevity reinsurance reserves above zero in early durations. Bayerle said since the flooring calculation can be done outside the principle-based reserving (PBR) model it is less prone to errors and would be easier to validate. He said the ACLI does not expect the benefits to vary between scenarios because of a lack of stochastically modeling mortality and the lack of non-U.S. dollar exchange and interest rates in the NAIC/Conning generator of economic scenarios (GOES). Bayerle added that even if companies voluntarily stochastically modeled mortality or accounted for the currency issue, the variability of the benefits across scenarios would be minimal in the first 12 months since that would be expected to appear much later in the projection. Bayerle said the ACLI does not recommend applying the floor at a policy level because it would require stochastic and asset calculations for each individual policy that is inconsistent with the rest of the stochastic calculations.

Eom said her proposal to apply a 2% floor at the scenario reserve level prior to the CTE70 calculation avoids low and negative reserve amounts resulting in higher CTE70. She noted that the ACLI approach to apply the 2% in aggregate results in a lower CTE70 because the floor applies after the averaging which allowed the negative scenario reserves to impact the average. Eom said she supported the ACLI's approach regarding the allocation methodology. Hemphill agreed with Eom that the scenario reserves level was the appropriate place to floor. Hemphill said that the approach was consistent with the cash surrender value floor under VM-21, Requirements for Principle-Based Reserves for Variable Annuities, where the flooring occurs at the scenario level.

The Subgroup agreed to move forward with the 2% of annual longevity benefits floor at the scenario reserve level proposed by New Jersey and the ACLI's allocation methodology proposal with a change to the proposal to make it so there is a floor within the allocation methodology at the 2% of annual longevity benefits.

2. Discussed Other Matters

Slutsker noted that during a future meeting, the Subgroup will discuss the payout annuity threshold exclusion test. He asked companies and other interested parties to submit insights they have regarding the threshold level.

Having no further business, the VM-22 (A) Subgroup adjourned.

Draft: 2/24/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
February 5, 2025

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Feb. 5, 2025. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill and Iris Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Heard a Presentation on VM-22 Field Test Results

Angela McShane (EY), Kyle Stolarz (EY), and Steven Jackson (American Academy of Actuaries—Academy) presented the preliminary summary of the VM-22 field test results to the Subgroup (Attachment Twenty-A). McShane noted a key area that companies commented on was simplifications or limitations in their results regarding the assets. She said that in general, the field test results aligned well with the model office results presented at the 2024 Fall National Meeting. Stolarz presented the available field test sensitivity results noting that to maintain confidentiality, the Stochastic Exclusion Ratio Test (SERT) results could not be presented publicly.

Slutsker stated the field test results showing reserve increases for contracts with living benefits seemed counterintuitive because contracts with optionality were expected to see decreases since the Commissioners Annuity Reserve Valuation Method (CARVM) takes the highest of all scenarios. McShane said that companies that saw an increase in reserves noted they had limitations and made simplifications regarding the asset portfolio. McShane said those participants indicated that they would be doing additional analysis and work to optimize their asset portfolio for VM-22.

Slutsker said the sensitivities results were key to future discussions on making decisions on open topics. McShane said companies indicated that reinvestments had a large impact when the reinvestment guardrail was compared to the company's own distribution, but the impact was small when comparing the baseline results to the guardrail sensitivity results. McShane stated that while the SERT results could not be shared to preserve anonymity, generally the results were consistent with the model office results.

2. Exposed Outstanding Decisions for VM-22 Draft Requirements

Slutsker exposed open questions on topics regarding the reinvestment guardrail, SERT threshold, and SERT mortality sensitivity for a 21-day public comment period ending Feb. 25. He also exposed a request for any other revisions to the framework for a 40-day public comment period ending Mar. 17 (Attachment Twenty-B).

Having no further business, the VM-22 (A) Subgroup adjourned.

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VM-22 Field Test: Preliminary Summary of Participant Results

February 5, 2025

Valuation Manual (VM)-22 (A) Subgroup

1

Academy and EY Collaboration: Aggregating the Field Test Results

- The VM-22 field test results have been independently aggregated, clarified, and aligned by the Academy and EY.
- EY contacted every submitter, gaining valuable insight.
- Today's results, as presented by EY, reflect the collaborative effort and EY's leadership in the final stages of analysis.
- This presentation represents the publicly discussable results.
- Regulator-only briefings can be scheduled, should that be desired.

2

Disclaimers

- All participant data received is treated confidentially.
- Participating companies noted varying levels of simplification used to produce field test results within the submission timeframe. Examples include using placeholder assumptions/margins, simplified asset portfolios, only running the Stochastic Reserve and not the Standard Projection Amount, and aggregating inconsistently with proposed VM-22 requirements. Best efforts have been made to analyze and aggregate data submitted by participants. The accuracy and reliability of the results are ultimately dependent on the quality of participant submissions.
- To maintain anonymity of participants per Academy standards, data and metrics for categories with fewer than 5 participants will not be shared publicly.

3

Overview and Status

Field Test Participant Results

The purpose of this presentation is to provide a preliminary summary of the VM-22 field test participant results.

This first presentation of results focuses on reserves, including overall impacts, sensitivities, and SERT results.

Where applicable, model office results are shown for comparison or to supplement the field test participant results.

VM-22 field test key objectives

Measure the impact on actual business of the proposed reserve and capital frameworks relative to the current standards to ensure frameworks are working as intended.

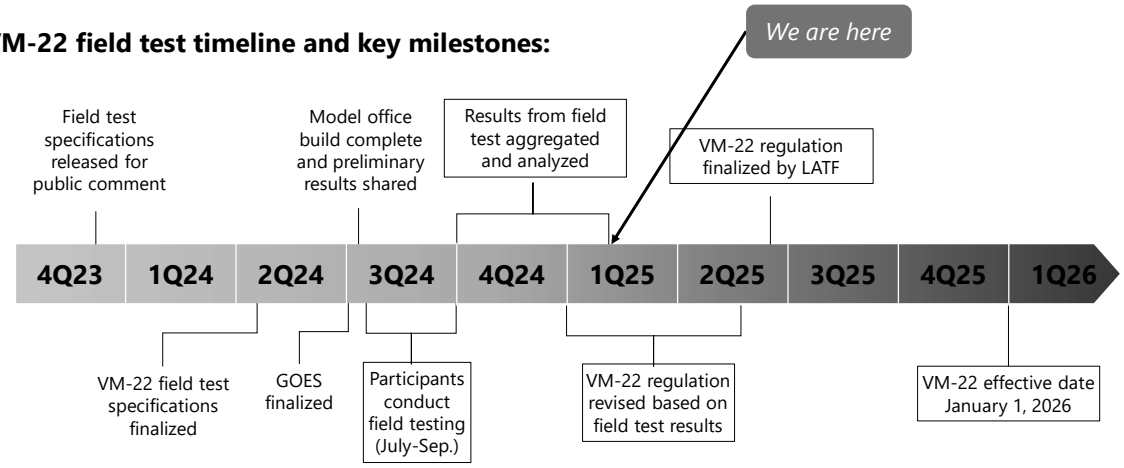
Ensure pillars of framework are met
- Appropriate Reflection of Risk
- Comprehensive
- Consistency Across Products
- Practicality and Appropriateness

Test the impact of key open VM-22 design decisions
- Aggregation
- Reinvestment guardrail mix
- Stochastic Exclusion Ratio Test threshold
- Standard Projection Amount (SPA) assumptions

4

Timeline

VM-22 field test timeline and key milestones:



5

Field Test Results

6

VM-22 Participant Data Submitted

The tables below show the counts of companies which submitted results for different components of the field test. Note that cells shaded in gray represent data sections which failed to reach the 5-count threshold, resulting in limitations to the analysis presented in the following slides to uphold participant anonymity.

Product	Overall results	SPA results	Margin Sensitivities	Reinvestment Sensitivities
SPIA	8	5	2	3
PRT	6	4	1	2
SSC	5	4	1	2
FDA (no WB)	11	6	6	6
FDA (WB)	4	3	1	2
FIA (no WB)	12	7	6	6
FIA (WB)	12	6	5	5

7

Limitations in Participant Results

The accuracy and reliability of the field test results are ultimately dependent on the quality of participant submissions. There were a wide variety of limitations noted from participants which could result in materially different impacts of VM-22 once fully implemented. Below are some of the common limitations that were observed.

1. Assets

The Field Test is showing that assets are one of the key drivers of VM-22 results. Many participants used a simplified approach to allocate assets for the field test, which could have a significant impact on results in some cases. Before applying VM-22 in the future, we expect that companies will perform more analysis and refine their approach to determine the assets that will be used to back VM-22 business, potentially aligning both the asset types and duration matching to the prospective VM-22 business.

2. Standard Projection Amount

Some companies did not provide SPA results or provided SPA results on a different level of aggregation than the SR and therefore could not be analyzed on a product level. Because of this, the overall VM-22 impact from CARVM could be misestimated for those companies.

For the companies that did provide SPA results, there were some inconsistencies in the application of the prescribed assumptions. These were discussed throughout the field test Q&A process and have since been clarified in the requirements.

3. Assumptions and Margins

Many companies noted using placeholder assumptions and/or margins for the field test, and that they plan to do additional analysis to set PBR prudent estimate assumptions for VM-22.

4. PIMR

There was inconsistent treatment of PIMR across participant results. Some companies explicitly disclosed PIMR, some included it in the final reserve, some did not reflect PIMR at all. The summary of results is based on the final VM-22 reserve that participants provided.

5. Aggregation

There were some inconsistencies in the way companies aggregated results, for example including GLWB payout streams in the payout category rather than the accumulation category.

6. Business Included

The field test specification asked for at least 10 years of inforce. Some companies provided less than 10 years (e.g. if the product hasn't been sold for that long), and some companies provided significantly more than 10 years of inforce.

8

Introduction to the Overall VM-22 Results Slides

- Splits by product:
  - Payout Category: SPIA, PRT, and SSC
  - Accumulation Category: FDA (no WB), FIA (no WB), FIA (WB)
- Model office results for each product
- Total number of companies providing results
- Change in final VM-22 reserve compared to CARVM
  - Mean
  - Median
  - Standard deviation
  - Range

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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SPA vs. SR by Product

The tables below shows summary statistics comparing the ratio of SPA (including buffer) to the SR. A positive % indicates that the SPA is greater than the SR, while a negative % indicates that the SPA is less than the SR.

The SR is driving the final reserve more often than the SPA for most products, including those that could not be aggregated.

It is expected that most companies will refine the assumptions and margins used for the field test before adopting VM-22, which could have a significant impact on the results below.

Product Overview

Product	Model office impact
SPIA	-2.3%
FDA (no WB)	-1.0%
FIA (no WB)	1.6%
FIA (WB)	3.4%

Participant results – SPA vs. SR for VM-22

Total # of companies	# SPA =< SR	# SPA > SR	Mean	Median	Standard Deviation	Range
5	5	0	-2.4%	-2.7%	1.1%	3.1%
6	5	1	-0.8%	-1.0%	1.6%	5.0%
7	5	2	-3.1%	-3.0%	6.0%	18.6%
6	3	3	1.3%	0.0%	4.0%	12.6%

Observations

- The SPA is expected to highlight outliers, so it is not surprising to see the SR dominate for most products.
- Where SPA dominates, it is challenging to pinpoint what the driver is, and whether that is due to simplifications for the Field Test, or whether that is a legitimate outcome in the results. For the WB block, it is believed that the choice in lapse assumptions drove the results in the Field Test.

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Overall VM-22 Results: Payout Category

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
SPIA	-3.4%
PRT	-3.5%
SSC	-5.7%

Participant results – CARVM vs. VM-22

Total # of companies	Mean	Median	SD	Range
8	-3.3%	-0.9%	13.8%	44.8%
6	-0.4%	-1.0%	4.7%	13.2%
5	20.9%	9.7%	30.1%	83.1%

Observations

- Model office results show a decrease in VM-22 reserves compared to CARVM, largely driven by work done in the model office to optimize the assets backing the liabilities.
- Wide range of results seen by participants, with some showing an increase in reserves under VM-22.
- From discussions with participants, this is believed to largely be driven by the selection of assets as multiple companies noted they did not spend significant time selecting or optimizing the asset portfolio for the field test.
- PRT saw a tighter range overall, which is believed to be because PRT assets are usually optimized and allocated to specific PRT deals.
- The model office grouped PRT and SSC together, so they are not directly comparable to the participant results.

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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Overall VM-22 Results: Accumulation Category

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
FDA (no WB)	0.3%
FIA (no WB)	4.6%
FIA (WB)	-16.7%

Participant results – CARVM vs. VM-22

Total # of companies	Mean	Median	SD	Range
11	2.6%	1.6%	4.6%	17.7%
12	6.3%	3.9%	7.9%	27.9%
12	-4.5%	-5.0%	8.4%	26.5%

Observations

- For FDA and FIA (no WB), most companies saw a modest increase while some saw modest decreases. From discussions with individual companies, the main driver appears to be how much effort participants put into asset optimization for the field test.
- As noted previously, the model office for FIA includes a modeling limitation related to the hedge costs and payoffs.
- Most companies saw a decrease compared to CARVM for FIA (WB). This was expected given the treatment for WB riders under CARVM.
- Some companies with FIA (WB) saw an increase, or more modest decrease. From some discussions with participants this may be explained by modeling simplifications and/or asset optimization.

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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Overall VM-22 Results: All Products

The tables below shows summary statistics on the change from CARVM to the final VM-22 reserve* for field test participants, as compared to the model office results shared previously. Participant results have been normalized so there is equal weighting across companies.

Product Overview

Product	Model office impact
SPIA	-3.4%
PRT	-3.5%
SSC	-5.7%
FDA (no WB)	0.3%
FIA (no WB)	4.6%
FIA (WB)	-16.7%

Participant results – CARVM vs. VM-22

Total # of companies	Mean	Median	SD	Range
8	-3.3%	-0.9%	13.8%	44.8%
6	-0.4%	-1.0%	4.7%	13.2%
5	20.9%	9.7%	30.1%	83.1%
11	2.6%	1.6%	4.6%	17.7%
12	6.3%	3.9%	7.9%	27.9%
12	-4.5%	-5.0%	8.4%	26.5%

*Final VM-22 reserve = Stochastic Reserve + ASPA – PIMR (when provided). Some companies did not reflect PIMR in the results provided with the field test.

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High-level Observations Summary

- **Range of results:** There was a wider range of results than was expected across all products. Every product had at least one company with an increase and one company with a decrease in reserves.
- **Selection of assets:** The assets used in VM-22 modeling are a key driver of results for all products. Given the simplified approaches that many companies took for assets, results could change materially when asset portfolios are refined. Some participants noted that the reinvestment guardrail had a significant impact on results vs. modeling their company reinvestment strategy.
- **Dominant reserve:** Where SPA results were provided, the SR is winning more often than the SPA for payouts and non-WB accumulation products. The SPA is winning more often on WB products. This is likely due to the SPA lapse assumption for WB products. 8 of the total 19 entities that participated in the field test did not provide SPA results.
- **Notable differences from model office results:**
  SSC – The model office included SSC as a subset of the PRT block but did not consider SSC as a standalone product so it's not directly comparable to participant results. SSC results also vary depending on the mix of business and inforce duration of the block, which for some participants was much longer than 10 years.
  FIA – The model office results included a topside adjustment for the cost of FIA hedges due to a limitation in GGY Axis.

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Sensitivity Results Summary

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Introduction to the Sensitivities

- The Field Test Specs asked participants to set, and disclose with results, each sensitivity's impact from mortality, policyholder behavior, expenses, hedging, non-guaranteed elements (NGEs), withdrawals, and other assumptions as deemed necessary.
- Participants were also allowed to use some default margins as described in the Specs if they did not want to use their own margins.
- There was only enough information gathered for mortality, lapse rates, expenses, and the reinvestment guardrail; these are discussed on the following slides.
- Similar to the overall results, there are a number of limitations related to sensitivities, e.g., how companies stepped into and isolated each sensitivities impact.

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Margin Sensitivities – Mortality

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. For mortality, the default margin was +/- 10%.
- 4 out of the 7 companies included in the analysis below used the default margin. For those who used their own company margins, the margins were <10%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test.
- Mortality margins were more impactful on accumulation products with WB vs. those without WB, but generally not material for accumulation products overall. Results for the payout category could not be shared publicly, but for the companies that provided results they were largely in line with the WB product results.

Product	# of Companies	# of Products	# of Products > 0%	# of Products =< 0%	Mean	Median	Standard Deviation	Range
FA (no WB)	5	5	0	5	-0.03%	-0.01%	0.04%	0.11%
FIA (no WB)	5	5	0	5	-0.15%	-0.02%	0.21%	0.55%
FIA (WB)	5	5	1	4	-1.01%	-1.13%	0.92%	2.41%
FA + FIA (WB)	6	6	1	5	-0.97%	-0.96%	0.85%	2.41%

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Margin Sensitivities – Lapse

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. The margins provided were +/- 10% on base lapse and +/- 150% on dynamic lapse.
- 3 out of the 7 companies included in the analysis below used the default margin. For those who used their own company margins, 1 out of the 7 used margins >10% and 3 out of the 7 used margins <10%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test. For those that did provide results, we were able to aggregate the results of a base lapse sensitivity as shown below. Very few companies provided sensitivity testing on dynamic lapses and therefore results could not be aggregated.
- The base lapse margin sensitivity had an immaterial impact for most companies.

Product	# of Companies	# of Products	# of Products > 0%	# of Products =< 0%	Mean	Median	Standard Deviation	Range
FA (no WB)	6	6	0	6	-0.43%	-0.27%	0.49%	1.48%
FIA (no WB)	6	6	1	5	-0.62%	-0.03%	1.32%	3.57%
FIA (WB)	5	5	1	4	-0.64%	-0.05%	1.10%	2.85%
FA + FIA (WB)	6	6	1	5	-0.54%	-0.05%	1.03%	2.85%

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Margin Sensitivities – Expenses

Background

- Field test participants were asked to remove each liability margin individually and provide sensitivity test results.
- The field test specifications included default margins that companies could choose to use in place of their own margins. For lapse, the default margin was +/- 5%.
- 3 out of the 5 companies included in the analysis below used the default margin. For those who disclosed their own company margins, the margins were <5%.

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test. The results below are aggregated across FA and FIA products without WB. We received limited results for other products that could not be aggregated, however the results were consistent across all products.
- The expense margin sensitivity had an immaterial impact for all participating companies.

Product	# of Companies	# of Products	# of Products > 0%	# of Products =< 0%	Mean	Median	Standard Deviation	Range
FA (no WB)	5	8	1	7	-0.01%	-0.02%	0.01%	0.04%

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Reinvestment Guardrail Sensitivity

Background

Field test participants were asked to provide results for two reinvestment guardrail sensitivities:

- Baseline: 50% AA, 50% A
- Required Sensitivity: 5% Treasury, 15% AA, 40% A, 40% BBB
- Optional Sensitivity: 5% Treasury, 15% AA, 80% A

Results and observations

- Many participants did not provide sensitivity results due to lack of time and resources for the field test.
- Overall, the reinvestment guardrail sensitivities did not have a material impact on reserves for most companies. 5 of the 7 companies included in the below analysis had an impact of <1% for all products.
- The results below show the impact of the required sensitivity vs. baseline for products where we had a sufficient number of data points to aggregate results:

Product	# of Companies	# of Products	# of Products > 0%	# of Products =< 0%	Mean	Median	Standard Deviation	Range
FA (no WB)	6	6	2	4	-0.13%	-0.05%	0.18%	0.51%
FIA (no WB)	6	6	1	5	-0.10%	0.00%	0.30%	0.96%
FIA (WB)	5	5	1	4	-0.41%	-0.54%	0.46%	1.17%
FA + FIA (WB)	6	7	2	5	-0.29%	-0.34%	0.46%	1.21%

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Stochastic Exclusion Ratio Test

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Stochastic Exclusion Ratio Test

Background

- Field test participants were asked to perform the Stochastic Exclusion Ratio Test (SERT) as outlined in the proposed VM-22 requirements.

Results and observations

- Many participants chose not to provide SERT results due to several factors:
  - Lack of resources to produce results in time for the field test
  - Working assumption that their business would not pass the SERT and therefore they do not plan to run it
  - Do not plan to run the SERT because they want to calculate VM-22 stochastic reserves
- Several companies provided partial results but not enough information to calculate the final SERT ratio. If any participating companies have this information available but did not submit it already, please reach out.
- As a result, field test participant SERT results could not be aggregated and shared publicly.
- For the limited data points provided, the participant SERT results were consistent with the model office results.
- Out of the 11 companies that submitted at least partial results, 10 of them used a mortality margin of +/- 5%, while 1 of them opted to use a mortality margin of +/- 10%.
- The model office SERT results (presented previously) are included on the following slide for reference.

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Stochastic Exclusion Ratio Test – Model Office

The table below summarizes the model office results of the stochastic exclusion ratio test for each product. The impact of applying a +/- 5% mortality margin did not materially impact the resulting ratio for all products.

Product	95% mortality factor	100% mortality factor	105% mortality factor
SPIA	3.6%	3.3%	3.1%
PRT	3.7%	3.4%	3.2%
FDA (no WB)	1.3%	1.3%	1.3%
FDA (WB)	2.1%	2.2%	2.3%
FIA (no WB)*	5.8%	5.8%	5.8%
FIA (WB)*	33.8%	33.7%	33.6%

* ***Important disclaimer for the FIA model office results***: the cost of the FIA hedges is currently accounted for via a spreadsheet topside for each scenario. The model currently incorporates the payoffs of the hedges, but not the costs. We have included the costs via topside, estimated as *option budget x AV / 12* (since there are annual resets), which are reflected in the results above and throughout this presentation. A system enhancement is in progress from the vendor.

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Next Steps for the Field Test

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Next Steps for the VM-22 Field Test

- Discussions with Regulators to discuss results, submissions, data gaps, and any additional requests.
- Additional presentations as requested by Regulators or other interested parties.
- Resume the weekly VM-22 Working Group meetings and continue progress on the VM-22 draft.
- Participants to send any additional Field Test data that they have but have not already submitted.

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Questions or Comments:

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Please provide feedback on the following questions:

1. Reinvestment Guardrail – Should the reinvestment guardrail in VM-22 be set to 50% AA / 50% A (same as the current VM-20/VM-21 requirements), 5% Treasury / 15% AA / 40% A / 40% BBB (Academy proposal and same as current VM-22 requirements), or 20% AA / 80% A (TX DOI proposal)? *(exposure until 2/25)*

2. SERT Threshold – What percentage level should serve as a threshold for the stochastic exclusion ratio test in VM-22? *(exposure until 2/25)*

3. SERT Mortality Sensitivity – Should the mortality sensitivities be increased for the stochastic exclusion ratio test in VM-22 (currently set to +/- 5% multiplicative margin)? If so, should the sensitivity either continue to be set to a scalar to mortality or instead be set to a mortality improvement rate, and how much? *(exposure until 2/25)*

4. Revisiting Framework Elements – Should any of the previously discussed items in the framework be revisited by the Subgroup? If so, please state such items, including edits and supporting rationale for any preferred changes to the latest draft. *(exposure until 3/17)*

Draft: 3/9/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
December 11, 2024

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Dec. 11, 2024. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Matt Cheung (IL); Nicole Boyd (KS); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill and Iris Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed Longevity Reinsurance Transactions Reserve Floor Methodologies

Slutsker said that longevity reinsurance transaction (LRT) products with recurring premiums could, on a present-value basis, result in negative reserves. He said to prevent negative reserves from offsetting any other positive reserves from other products, the Subgroup created a separate reserving category for LRT so that it could not be aggregated with any other types of contracts. He said the other way the VM-22, Requirements for Principle-Based Reserves, draft addressed potential negative reserves was with a k-factor method. Slutsker said the k-factor methodology proposed in the VM-22 draft worked similarly to a net-level premium method by setting the k-factor so that the present value of benefits equal to the present value of premiums at time zero, and the k-factor would then be applied to premiums going forward for stochastic reserve calculations. Slutsker said two proposed alternatives to the k-factor methodology are a percentage of benefit floors. The methodology proposed by the American Council of Life Insurers (ACLI) floored the reserve at zero. He said the other methodology proposed by New Jersey is a 2% annual benefits floor methodology similar to the ACLI proposal.

Brian Bayerle (ACLI) said the original ACLI proposal had a zero floor after calculating the conditional tail expectation 70 (CTE 70) for each individual contract. He said a 2% proposal is a very different floor than zero, and they did not envision the application at the scenario level. Bayerle recommended modifying the ACLI proposal so that there would be no per-contract floor, which was different than its original proposal and New Jersey's proposal.

Eom said that the 2% method New Jersey proposed would apply on a scenario basis when companies project cash flows before calculating the CTE 70 of the scenario reserves. The reason for the 2% floor at that level was to address the benefit amount variation across scenarios when companies use stochastic mortality assumptions or mortality experience assumptions from foreign countries. Eom noted that the Subgroup would need to discuss how to allocate back to the treaty level.

Mark Hutchinson (American Academy of Actuaries—Academy) discussed how LRT contracts work and how negative reserves may happen (Attachment Twenty-One-A). He said the Academy viewed reserve floors as inconsistent with a principles-based framework. He said the Academy was not opposed to the 2% floor approach; however, for an actuary setting the assumptions, a 0% floor would suffice. Hutchinson said the VM-31/VM-G requirements would provide transparency to the assumption-setting process to allow regulators to gain comfort with a 0% floor.

Cheung asked if there would always be a standard projection amount (SPA) for LRT. Slutsker said that there is some similarity to pension risk transfer (PRT) where there could be some variability in how the mortality profile compares to the mortality under the SPA, so there may not necessarily always be an SPA. Hutchinson said that these agreements are often bespoke to the specific group that will be reinsured, and there are different longevity expectations, so the SPA may or may not kick in. Cheung asked if there were essentially two floors, a floor

discussed today, and the mortality that may act as a floor. Slutsker said regarding the "double floor," there has been no formal decision on whether to recommend that the SPA be a floor or a disclosure item, but it will be decided in the coming months. Cheung said it would be difficult to agree on a decision if it is unknown whether the SPA will be required as a floor or disclosure. Slutsker said there will be an opportunity before adoption to discuss various questions and decisions.

Bayerle said ACLI prefers not to have a floor because it does not fully align with the economics, but they understand regulators' concerns about early profits from the LRT products. He said ACLI would be comfortable if regulators were to move forward with a 2% floor approach as it is a simplified approach and balances setting reserves earlier.

Eom said she preferred the 2% approach and would like to see testing of the different options for applying the floor. Lam said California supported the 2% floor proposal and wanted to better understand the impact of how it would apply at the different points in the calculation. Leung, Rao-Knight, Boyd, and Cheung said they supported the 2% floor as proposed by New Jersey. Carmello said New York favored the k-factor approach.

Eom made a motion, seconded by Leung, to incorporate the 2% benefit floor approach into the draft with the understanding that: 1) there are three places where the floor could be applied; and 2) the Subgroup's decision of the SPA being a floor or disclosure will come later. Cheung said Illinois supports the 2% but will preserve his final decision to where the decision is made for the SPA to be a disclosure or floor. The motion passed with New York opposed.

2. Discussed Applications and Timing of LRT Reserve Floor Methodology

Slutsker said the 2% floor could apply independently for each contract or in aggregate and at different points in the calculation such as at the scenario reserve level before the CTE calculation or during the stochastic reserve calculation after the CTE.

Eom said the scenario reserve level calculation would work so that for each scenario, the floored scenario reserve would be set to the maximum of the scenario reserve and the 2% of the scheduled benefits payable within the next 12 months from the date of valuation. Eom said the stochastic reserve would then be the CTE 70 of the floored scenario reserves. Slutsker said the stochastic reserve option could look like calculating a full stochastic reserve for each contract, then doing a CTE 70 of the scenario reserves and CTE 70 for each contract independently, then applying the 2% flooring. Bayerle said he had two concerns: 1) the floor for each scenario will be different, so there will be no comparison across the scenarios, and 2) the open decision on VM-22 regarding the CSV flooring. Bayerle said the Subgroup should be intentional and deliberate about the flooring mechanisms and be considerate of the layering of the different types of floors under VM-22.

Bayerle said ACLI recommended doing all comparisons in aggregate by calculating the CTE 70 in full, then comparing it to the 2% of benefits across all contracts. Bayerle said the ACLI recommended applying the 2% flooring approach at an aggregate level rather than the treaty level because it would make the reconciliation easier as well as align with how other parts of the requirements work. Bayerle said the ACLI could work with the Subgroup to come up with examples of how the different flooring options would work. Slutsker said the discussion would continue on a subsequent call after reviewing examples.

Having no further business, the VM-22 (A) Subgroup adjourned.

December 4, 2024

Mr. Ben Slutsker, Chair
Valuation Manual (VM)-22 (A) Subgroup, Life Actuarial (A) Task Force (LATF)
National Association of Insurance Commissioners (NAIC)

Re: Comments on the recently exposed VM-22 Longevity Reinsurance Proposal

Dear Chair Slutsker,

On behalf of the Annuity Reserves and Capital Subcommittee (Subcommittee) of the American Academy of Actuaries,[1] I appreciate the opportunity to comment on the recently exposed VM-22 Longevity Reinsurance Proposal (Proposal) and am pleased to provide the following comments.

Fundamentally, the Subcommittee is committed to a principle-based reserve (PBR) framework, which we believe is inconsistent with reserve floors. As we consider more specifically the Proposal, we offer the following comments:

a.) In a PBR framework, we believe the question of reserve adequacy should be evaluated by reference to the sufficiency of the reserves plus future premiums to mature future claims under a range of potential economic scenarios, rather than reference an a priori expectation regarding the pattern or level of reserves required.
b.) While the Subcommittee does not believe that any contract-level flooring of reserves is consistent with a PBR valuation, flooring the final reserve at zero on a contract-by-contract basis for contracts in the Longevity Reinsurance category should be sufficient to achieve an appropriate reserve level without the need for the additional floor specified in the proposal, provided that reinsurers issuing these contracts maintain robust monitoring and assumption updating procedures (as further discussed below).
c.) Most types of Longevity Reinsurance contracts are structured as "fee-based" products, meaning that the contractual premiums are set equal to the at-issue expectation of the future benefits to be paid plus a risk-fee. By design, this risk fee causes the total premiums to be received to exceed the benefits expected to be paid at the time of contract issue, and these fees are available to offset any adverse experience post-issue.
    i. These risk fees are typically deterministic and contractually fixed from inception.
    ii. For a typical Longevity Reinsurance contract, the only source of potential variation in future risk fees for the assuming reinsurer comes in the form of counterparty default risk on the part of the ceding insurer or reinsurer. Some contracts also contain collateralization requirements that may partially mitigate this counterparty risk. In

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

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addition, the assuming company can typically terminate the contract if the ceding company fails to pay or becomes insolvent.

iii. Longevity Reinsurance contracts do not generally contain voluntary termination provisions, nor do they have cash surrender values or transaction-level lump sum settlement options. Hence, the probability of receipt of future fees by reinsurers writing this coverage is high.

iv. Given the high probability of receipt of these risk fees, it may be appropriate to consider these future fees when determining the reserve, although doing so may result in modest or zero reserves in certain durations.

d.) If actual contractual experience is less favorable than at-inception expectations (e.g., because a greater-than-expected-at-issue number of annuitants remain living), then projected benefits in the PBR projection will begin to exceed projected premiums (e.g., through the higher benefits projected from the greater-than-expected-at-issue number of living annuitants). These greater-than-expected-at-issue benefits will partially erode the excess premiums inclusive of the risk fee. To the extent the risk fee is projected to become depleted due to unfavorable experience, material reserves would emerge from the Stochastic Reserve calculation, consistent with the emergence of the risk assumed by the reinsurer, even without a contract-level reserve floor.

e.) Since prudent estimate mortality assumptions are required to be used in the Stochastic Reserve, there is already an inherent degree of conservatism embedded in the PBR calculation. If zero reserves are sufficient to mature the liabilities under prudent estimate mortality assumptions, then it is appropriate and consistent with a PBR valuation for the resulting reserve for such a contract to be zero. This simply reflects the fact that the future premiums and risk fees remain adequate to cover the future expected benefits at the reserve objective level, even under prudent estimate mortality assumptions.

f.) Given the incremental and gradual nature of mortality improvement, the risk that mortality moves materially against the reinsurer is most likely to emerge gradually over a long period of time.

g.) Due to the nature of the risk assumed and the large number of insureds typically included in these contracts, the reinsurers issuing Longevity Reinsurance contracts typically employ sophisticated data analytics and long-term mortality improvement modeling techniques when underwriting these contracts. These companies also use similar processes when monitoring actual mortality experience on an on-going basis.

h.) Given the slow emergence but potentially large scale of the risk typically assumed under these contracts, it is imperative that companies writing these contracts maintain robust, responsive, and transparent experience monitoring programs to ensure that PBR reserves adapt to emerging contractual experience appropriately and in a timely fashion. Strong and robust experience monitoring programs may include features such as annual longevity model benchmarking against industry longevity models, annual contract-level assumption reviews, periodic experience monitoring at the contract level for financial reporting and analysis purposes, periodic analysis of longevity experience within sub-populations across contracts (e.g., insureds with similar geographic residency or insureds with similar professions), evaluation of the credibility of experience data with pooling or industry data used when data is not fully credible, stress or shock analysis at the contract or block-level, analysis of mortality versus longevity risk offsets at the legal entity or enterprise level, and review of contract-level valuation assumption setting procedures by the second and third lines of defense. The Subcommittee would recommend that regulators include a review of the company's experience monitoring and assumption setting processes for these contracts as an area of focus when conducting formal risk-based examinations for companies writing Longevity Reinsurance contracts.

i.) Assuming the VM-31 and VM-G requirements to monitor and report ongoing experience and to periodically update prudent estimate mortality assumptions remain in place, these processes

should be sufficient to ensure that any adverse changes are appropriately detected and reflected in reserves as needed without the need for a non-zero reserve floor.

We appreciate the opportunity to provide these comments on the proposal. If you have any questions or would like to discuss this letter further, please contact Amanda Barry-Moilanen (barrymoilanen@actuary.org), the Academy's life policy analyst.

Sincerely,

Chris Conrad, MAAA, FSA
Chairperson, Annuity Reserves and Capital Subcommittee
American Academy of Actuaries

Draft: 2/23/25

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
December 4, 2024

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Dec. 4, 2024. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Vincent Tsang and Matt Cheung (IL); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill and Iris Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed Comments on Policyholder Behavior Assumption for Partial Withdrawals Under SPA

Lam said several of the comments received were related to defining the partial withdrawal assumptions for contracts in the accumulation reserving category that have exercised the living benefit guarantees. Lam said the drafting group reexamined the data and recommended deleting the standard projection amount (SPA) assumptions for partial withdrawals related to contracts with guaranteed living benefits (GLBs) after the guarantee has been exercised. She said the intention was for contracts with GLBs to be based on the guaranteed maximum annual withdrawal amounts that are defined within the guarantees' parameters.

Brian Bayerle (American Council of Life Insurers—ACLI) presented comments regarding Section 6.C.4.a through Section 6.C.4.c that asked the Subgroup to clarify the intent. Lam said that in response to the comments, edits were made to clarify the intent and applicability. She said Section 6.C.4.a applies to contracts without a GLB, or if there is a GLB, before it is exercised. She said Section 6.C.4.b edits were made to standardize terminology that clarified that the partial withdrawal amount for contracts with lifetime GLBs is the full guaranteed maximum annual withdrawal amount when the account value is 0. She said Section 6.C.4.c was meant to address all contracts with GLBs. She said 6.C.4.c defined when the contract would commence withdrawals under the GLB.

Lam said commenters raised concerns with the method in Section 6.C.4.c, which directed companies to compare their prudent best estimate utilization assumptions to the prescribed table. She said the draft was updated to reflect the drafting group recommendation to eliminate the comparison and, for simplicity, to use the prescribed table that represented a cumulative utilization rate based on qualification status and age.

Lam noted clarifications in Section 6.C.4.d addressed a subset of policies that have not “exercised” the GLB but took a withdrawal in the contract year immediately preceding the valuation date. She said the requirements assume going forward the benefits received would be the maximum partial withdrawal amount.

Lam said there were some concerns about the qualified and non-qualified utilization assumptions. Lam stated that the data underlying the assumptions showed qualified contracts exhibit higher utilization upon the older ages where the retirement minimum distribution (RMD) ages are involved.

2. Exposed the Updated VM-22 SPA Draft

Lam said edits were made to clarify which assumption to use when the account value is zero. The intent was to create a lapse assumption of zero, and therefore, the minimum and maximum lapse assumptions would not apply when the account value is zero.

Lam noted the ACLI recommended using cash surrender value instead of the account value for the in-the-moneyness (ITM) factor for the dynamic lapse formula. Lam said the use of account value was intentionally consistent with VM-21, and she is not recommending a change that would introduce inconsistency with VM-21.

Lam discussed an ACLI comment that the guaranteed minimum interest rate (GMIR) factor in the dynamic lapse formula should be based on the maximum of the guaranteed crediting rate and the underlying GMIR due to the material difference for fixed deferred annuities during their surrender charge period. Lam said the intention was for companies to use the GMIR and not the guaranteed rate because the GMIR could play a big role in contracts with longer expected durations.

Lam said references to fixed indexed and fixed annuities were simplified to indexed annuities and fixed annuities, respectively.

Lam discussed an additional clarification made for indexed annuities regarding the crediting rate definition. She said the edit to use "the options budget or the value of the options supporting the index crediting strategy" was made to address when companies have guaranteed caps.

Lam said the lapse skew application should be consistent with the company's best estimate since it is not an assumption that the policyholder behavior assumptions drafting group looked at.

Bayerle said the ACLI would look at the deferred income annuity and fixed indexed annuity assumptions out of the dynamic lapse formula and compare them with the Milliman data. Bayerle said the ACLI believed the Milliman data did not support the "cliff approach" lapse rates out of the dynamic lapse formula. Lam noted the drafting group had not seen the Milliman data. Lam said she did not recommend changes to the formula; however, the group was open to further discussion.

Andy King (Oliver Wyman) asked why the guaranteed minimum withdrawal benefit (GMWB) utilization assumption used attained age instead of the policy year considering they typically see companies use policy year instead of attained age for these types of guarantees. King said companies could have very high utilization for the younger policies if they had a lot of older contracts. Lam noted that the attained age structure was due to simplification.

Cheung asked for clarification regarding how companies should apply Sections 6.C.4.c and 6.C.4.d for a block of contracts where a portion of people had an immediate withdrawal and that proportion was more than the utilization rates in Table 6.4. He said it made sense to model those that immediately withdraw to continue to withdraw. Chueng said it was unclear how to handle the remaining contracts which have not started yet. He asked if the utilization rate should be zero for those because the utilization rate was already exceeded, or if Table 6.4 applied. He suggested the Subgroup revisit the data and see how a utilization assumption would apply to the portion of the contracts that had not commenced withdrawals. Lam said she would take that question back.

Lam made a motion, seconded by Yanacheak, to expose the updated VM-22 SPA draft, which included edits for partial withdrawal and full surrender SPA assumptions, for a 60-day public comment period end February 7th, 2025. The motion passed.

Having no further business, the VM-22 (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/VM-22 Calls/12 04/Dec 4 Minutes.docx

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Update on Life Insured Mortality Improvement Recommendation

Mortality Improvement Life Working Group
of the SOA Mortality and Longevity Oversight Advisory Council

MARCH| 2025

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Presentation Disclaimer

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Agenda

Discuss preliminary recommendation for individual life insured historical mortality improvement (HMI) for fully underwritten business

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HMI Recommendation – Fully Underwritten Business

Background

- It has been difficult to measure true life insured HMI due to inconsistency in the past industry experience data for insured lives
  - Changes in the mix of companies included in the data
  - Shifts in industry focus over time

  (ex. changes in underwriting definitions, changes in risk class structure, changes in market/distribution focus over time)
- Revisited this given the new data source from mandatory data calls
- Also, reviewed SOA general population socioeconomic decile work
  - Industry insured data is now included in SOA Mortality Improvement Model (MIM) tool as a data option for users in considering their own HMI assumptions
- Predictive modeling approach pursued to help better quantify and adjust for the impact of industry shifts affecting the mortality trend over time
- Focusing first on the HMI approach (future mortality improvement (FMI) will be the next)

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HMI Recommendation – Fully Underwritten Business
Overview of Work

- Predictive model built

To identify and quantify the primary non-biometric factors impacting mortality improvement results in the individual life insured population data

- MI analysis tool developed

Excel-based tool that allows for "normalization" of data for non-biometric factors identified in the predictive modeling work

- Allows for better understanding of true biometric mortality improvement levels
- Allows for comparison to general population deciles

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HMI Recommendation – Fully Underwritten Business
Predictive Modeling Results

- Data: 2011-2017 fully insured mortality data provided by SOA
- Separate were models developed by product category
  1. Term products – excluding post level term – separate models developed for face amounts $100K+ and under $100K)
  2. Permanent products – separate models for whole life unismoke and all other permanent business
  3. Post level term business only
- Results: confirmed hypothesis that the primary industry-related factors impacting MI for the total insured population include:
  - Face amount
  - Risk class
  - Plan of insurance (term, whole life, universal life)
  - Issue year era
  - Policy Duration

The same primary factors were identified across product category models, but there are differences by product category in order of factor importance.

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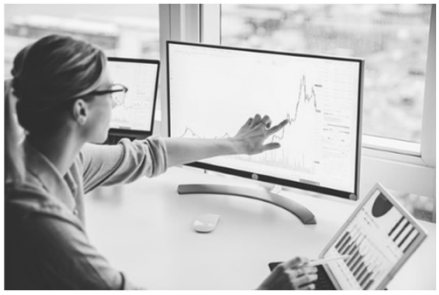
HMI Recommendation – Fully Underwritten Business

MI Analysis Tool

- Data included in tool
  - General population data from socioeconomic decile study
  - Insured data from SOA based on the NAIC/NYDFS data calls (2009-2019 experience years)
    - Includes all fully underwritten business issued standard (no substandard)
- Tool Methodology
  - Informed by predictive modeling work
  - Insured mortality experience is normalized across the experience years for factors having the greatest effect on mortality
  - Currently the tool can only normalize for one factor at a time
- Results
  - Normalized insured data was compared to general population data
  - Normalized insured data appears reasonably consistent with general population trends



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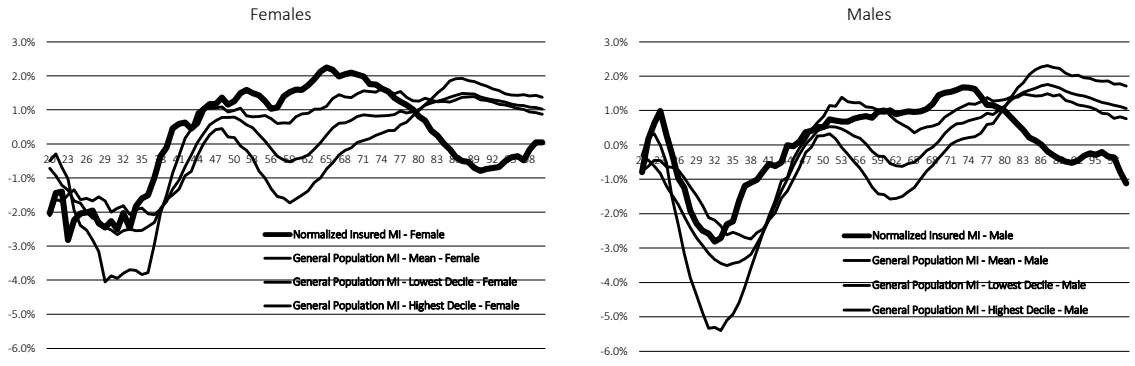
Comparison of Mortality Improvement Rates

Experience Period = 2011-2019



Individual life insured data (black lines) – basis for derivation of mortality improvement rates shown:
- MI determined on a policy count basis
- Data normalized for changes in face amount distribution
- Term and permanent products combined (post level term excluded)

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Preliminary Insured Historical Mortality Improvement (HMI) Recommendation Key Decisions

Considerations	Current Recommendation
Data and approach for measuring HMI	Varies by attained age: • For primary insured ages (25-80) : use normalized insured data to measure MI • Ages 0-25 : use general population data from Social Security Administration (SSA) grading to insured data at age 25 • Ages 80-85 : grade from insured data to 0 at age 85
Subset of insured historical data for measuring HMI	1. 2011-2019 2. Smoker distinct only (no unismoke data) 3. Excluded post level term business 4. Conversion included (at this point we do not have a means to exclude*) 5. Survivorship excluded * May want to consider adding to VM51 data formats in future
Methodology for developing HMI recommendation	1. Use policy count mortality basis for HMI measurement 2. Vary the HMI scale by gender and attained age only 3. Smoothing approach - averaging across attained age groups 4. COVID adjustments (next step) 5. FMI scale recommendation (next step) 6. Risk margin considerations (next step)

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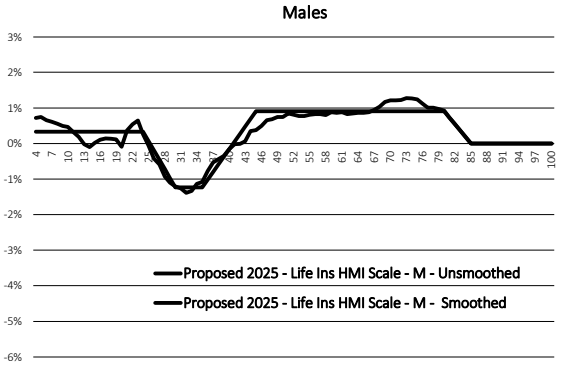
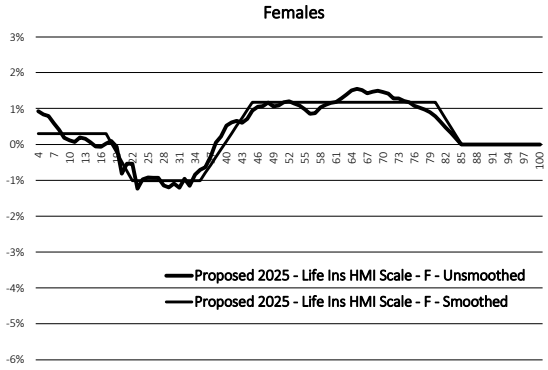
HMI Recommendation – Fully Underwritten Business
Before COVID Impact Adjustments





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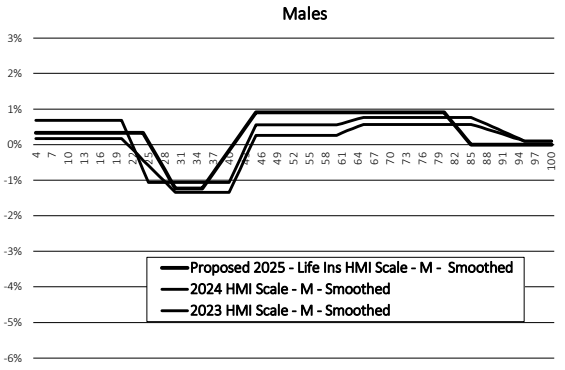
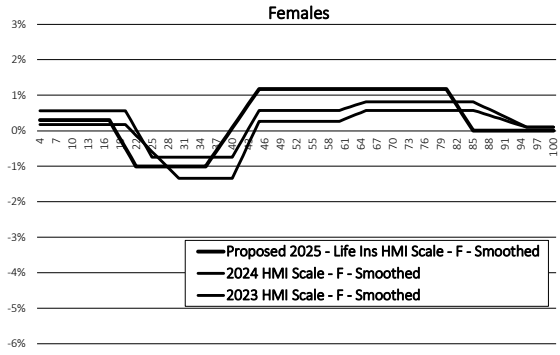
HMI Recommendation – Fully Underwritten Business
Before COVID Impact Adjustments





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MI Recommendation – Individual Life Fully Underwritten Business Next Steps

- HMI recommendation
  - Consider practical issues involved with using insured mortality data rather than general population sources (lags in data, regular updates will be needed)
  - Additional considerations to be addressed – COVID impact
  - Working with NAIC staff on impact testing using model office
- Begin FMI work
  - Review long-term MI rates assumption
  - Consider impact of COVID and opioid in recent years
- HMI recommendation for Limited Underwriting Business
  - Considering applicability of planned new VM 51 underwriting data elements for limited underwriting study (underway)

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Appendix

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Preliminary Insured Historical Mortality Improvement (HMI) Recommendation

	Options Considered	Current Recommendation
Basis for Measuring Historical Improvement	1. Fully underwritten insured mortality experience (after normalization) 2. General population decile chosen to represent insured 3. Combination of both	<u>Combination of both</u> • Primary insured ages (25-80) : normalized insured data to measure MI for primary insured ages (25-80) • Ages 0-25 : general population data grading to insured data at age 25 • Ages 80-85 : grade from insured data to 0 at age 85
Subset of Insured Historical Data for Measuring MI	1. Experience Period Subset (full period available 2009-2019) 2. Unismoke, smoker distinct, or all data 3. Post level term 4. Conversion business 5. Survivorship business	1. 2011-2019 2. Smoker distinct only 3. Excluded post level term 4. Conversion included (no means to exclude*) 5. Survivorship excluded * May want to consider adding to data formats in future
Methodology	1. MI calculation basis (face amt/policy count) 2. Factors for variations in scale (gender, attained age, smoker status, risk class, select vs ultimate) 3. Smoothing approach 4. COVID adjustments if needed 5. Impact of opioid and mental health crises 6. Risk margin approach	1. Policy count 2. Gender and attained age only 3. Averaging across attained age groups 4. COVID adjustments TBD 5. Included in both insured and general population data 6. Risk margin considerations TBD

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March 11, 2025

Mike Yanacheak,
Chair, NAIC Generator of Economic Scenarios (GOES) (E/A) Subgroup

Peter Weber,
Vice Chair, NAIC Generator of Economic Scenarios (GOES) (E/A) Subgroup

Re: Amendment Proposal Form (APF) 2025-04

Dear Chair Yanacheak and Vice Chair Weber,

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on the recent exposure of APF 2025-04, which incorporates GOES into the Valuation Manual (VM) in accordance with the new GOES. ACLI would also like to reiterate our thanks to the members of this Subgroup, NAIC staff, and other interested parties for the tremendous amount of work that has gone into this effort so far as we look to adopt the new Generator so that it may be implemented into the US statutory framework beginning on January 1, 2026.

In the continued sprit of productive dialogue and coordination, ACLI has reviewed the Subgroup exposure and offers the following comments sorted by general feedback, feedback on the cover letter questions, and then feedback on specific sections of the document.

General Feedback –

- The transition period of implementing the new generator is not captured in the current APF. ACLI recommends using the same transition period as the updates to VM-21; that is, a 3-year transition of the impacts, with a longer implementation period with domestic regulator approval.
- ACLI supports having a new VM chapter dedicated to GOES instead of having most of the needed updates/requirements listed in VM-20. We also believe that the language of VM chapters 20, 21, and 22 should be kept as simple as possible. However, ACLI recognizes

the practical difficulty associated with accomplishing this in time for inclusion in the 2026 VM, but this may be preferable to trying to make updates twice which could increase the risk of incorrect references.

- The GOES governance framework document should be referenced in the VM in a manner similar to the historical and future mortality improvement scalars to allow greater flexibility in updating the requirements. Under the current AIRG, much of the relevant historical information is on the American Academy of Actuaries' website and practice notes so it will be extremely helpful in the future to put all the relevant information in one place, and we encourage such documents along with the governance document be stored in one central location, such as the Principle-Based Reserving section of the NAIC website.

Feedback on the Cover Letter Questions –

- It would be useful to have more clarity on the SERT scenario changes. How are these expected to address the shortcomings identified during the field testing? Has any testing been carried out to see what the recalibrated SERT scenarios look like and how they would compare to the SERT scenarios used for the field testing? These questions are perhaps a bit too broad to include in any formal guidance, but ACLI does feel as though they are necessary considerations that can help to determine whether the proposed approach is reasonable.
- We note that the approach used for determining the SERT scenarios in the exposure draft still involves calibrating them to the stochastic economic scenarios. As a possible alternative to this, ACLI and our technical subject matter experts are working on a deterministic reserve-based proposal that we hope to have ready to present at the NAIC Spring National Meeting session of the Life Actuarial (A) Task Force.

Feedback on Specific Sections of the Exposure -

- Various Sections, for example 6.A.2.c: Where the 6% is replaced with x%, is the intent that the x% replacement is permanent? How will it be determined?
- VM-20, Appendix 1, Section D: The first letters of the words in "percentiles exponentially weighted (PEW)" should be capitalized. It would also be helpful to have an indication in the narrative on how the benchmarks will be updated and if that is meant to be covered in governance, then that should be called out.
- VM-20, Appendix 1, Section E (Additional Description of Economic Scenarios): Should there be documentation on the shocks applied to generate bond fund returns in the SERT scenarios?
- VM-20, Appendix 1, Section E (Scenario 12 – Deterministic scenario for valuation): We may need to revisit the approach for equity returns as well in the deterministic reserve scenario given jump process and correlation approach introduced in latest equity model calibration.
- VM-20, 7.G.1.c: The language in the comment is easier to understand than the red line. Is the language proposed here directed at the Generator or another topic?
- Appendix 4 - VM 20 7.G.2.c: It is unclear what is meant by the language in this section surrounding the removal of the scenario picker tool. While it is our understanding that Conning will still be producing tools, a process that is to be addressed in governance, it may be good to retain some guidance note on them in the VM.
- Appendix 5: We would suggest removing the references to the groups and charges since those could change year after year. One possible edit would be to retain only the final paragraph pointing to the Governance Framework. The provisions in the framework should be addressing the charges whether that is explicitly stated in the VM or not.
- Appendix 6 - VM-31, Section 3.E.3: Regarding "CTE 98 (post tax)", can we introduce a general term for this (e.g. "C-3, Phase 2 CTE level" which is the prescribed CTE level used

for calculating the C-3 Phase II RBC amounts as defined in the RBC instructions)? Then we would only need to update the RBC instructions to change this CTE level going forward.
    - This would also apply to "CTE 98"'s inclusion in Appendix 6 VM-31, Section 3.F.9.b., VM-31, Section 3.F.13.d.ii.3, and VM-31, Section 3.F.13.d.iii.3.
- Appendix 6 - VM-31, Section 3.F.9.b.: When interest rates and equity returns are mentioned, this should also include bond fund returns.

Thank you once again for the consideration of our comments and we look forward to additional discussion on this APF at a future session of the GOES (E/A) Subgroup and LATF.

Sincerely,

B Boafeli Colin Masterson

cc: Scott O'Neal, NAIC

Agenda

1. APF 2025-04: Specific Topics
   a) Scenario Subset Requirements
   b) Stochastic Exclusion Ratio Test (SERT) Threshold
   c) Stochastic Exclusion Test (SET) Volatility
   d) SERT Basis
2. ACLI Proposed DR Scenario Revisions
   a) Appendix: Evaluating Approach for Different Tenors – Current DR Approach
3. GOES Model Governance Framework Key Topics
4. Next Steps
5. Appendix – Additional Field and Model Office Testing Results

1

APF 2025-04: Scenario Subset Updates

- Conning has delivered an excel-based tool that selects subsets from the 10,000-scenario file based on UST significance values or Large Cap equity fund gross wealth factors (GWFs).
- VM-20 currently prescribes the use of the scenario picker built into the AIRG, which uses UST significance values to produce 1,000; 500; 200; or 50 scenario subsets.
- VM-21 allows for fewer than 1,000 scenarios to be used provided they materially reproduce the CTE results from running a larger scenario set.
- The new VM-20 and VM-21 language would allow for the use of scenario subsets provided they meet the simplification, approximation, and modeling efficiency technique requirements of VM-20 section 2.G and VM-21 3.H
- **Question: Should scenario selection be moved under the simplifications, approximations, and modeling efficiency techniques requirements?**

VM-20, Section 7.G.2.c

c. Use of fewer scenarios rather than a higher number of scenarios is permissible as a model efficiency technique provided that t:
~~i. The smaller set of scenarios is generated using the scenario picker tool provided within the prescribed scenario generator, and~~
~~ii.~~ The use of the technique is consistent with Section 2.G.

VM-21, Section 8.F

F. Number of Scenarios ~~and Efficiency in Estimation~~
Use of fewer scenarios rather than a higher number of scenarios is permissible as a model efficiency technique provided that the use of the technique is consistent with Section 3.H.

~~1. For straight Monte Carlo simulation (with equally probable "paths" of fund returns), the number of scenarios should typically equal or exceed 1000. The appropriate number will depend on how the scenarios will be used and the materiality of the results. The company should use a number of scenarios that will provide an acceptable level of precision.~~

~~2. Fewer than 1,000 scenarios may be used provided that the company has determined through prior testing (perhaps on a subset of the portfolio) that the CTE values so obtained materially reproduce the results from running a larger scenario set.~~

~~3. Variance reduction and other sampling techniques are intended to improve the accuracy of an estimate more efficiently than simply increasing the number of simulations. Such methods can be used provided the company can demonstrate that they do not lead to a material understatement of results. Many of the techniques are specifically designed for estimating means, not tail measures, and could in fact reduce accuracy (and efficiency) relative to straight Monte Carlo simulation.~~

~~**Guidance Note:** With careful implementation, many variance reduction techniques can work well for CTE estimators. For example, see Manistre, B.J., and Hancock, G. (2003), "Variance of the CTE Estimator," 2003 Stochastic Modeling Symposium, Toronto, September 2003.~~

~~4. The above requirements and warnings are not meant to preclude or discourage the use of valid and appropriate sampling methods, such as Quasi-Random Monte Carlo (QRMC), importance sampling or other techniques designed to improve the efficiency of the simulations (relative to pseudo-random Monte Carlo methods).~~

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OliverWyman

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Model Office Testing: SERT Analysis

Impacts of scenario revisions and prudent best estimate assumptions

March 12, 2025

A business of Marsh McLennan

3

CONFIDENTIALITY

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4

VM-20 ULSG PROJECTIONS AND MODEL OFFICE DESCRIPTION

Model assumptions and product features were selected based on industry benchmarks to be a simplified representation of products currently offered

Component	Description of functionality
Projection model details	▪ Universal life with shadow design lifetime secondary guarantee issued in 2020 ▪ Time 0 reserves are held in 50% 5-year BBB bonds and 50% 7-year BBB bonds ▪ Reinvestment strategy uses 50% A/AA corporate bonds – 10% 5-year – 25% 7-year – 35% 10-year – 25% 20-year – 5% 30-year
Best estimate assumptions	▪ Follows industry benchmark assumptions ▪ Mortality experience is 100% credible with 25 years of sufficient data ▪ UL crediting rate is dynamic and based on NAER less a spread, varying for each stochastic scenario
Prudent estimate assumptions	▪ VM-20 prescribed mortality margins based on credibility and sufficient data period ▪ Minimal lapse when policy maintained inforce by NLG (i.e. CSV = 0)

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REVISIONS TO GOES

Z1 **Initial Treasury Yield Curve Fitting Methodology:** The revised initial yield curve fitting methodology places more emphasis on the longer maturities for greater alignment with insurance company investment strategies.

Z2 **Dynamic Generalized Fractional Flooring (DGFF):** The DGFF methodology is an extension of the previous generalized fractional floor and the parameters are set to target a 3% level of negative 1-year UST rates in the steady state.

[redacted]

Note: Z3 scenario changes do not affect the VM-20 model office results since the product is not linked to equity markets

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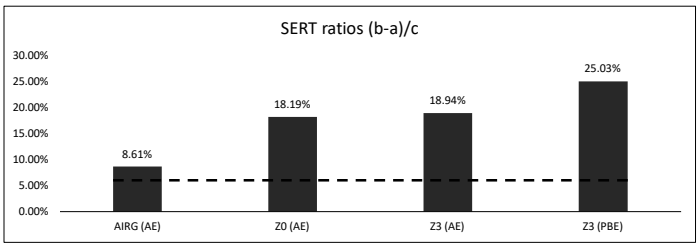
SERT RESULTS – BASELINE

SERT results were tested using AIRG and GOES scenario sets. An additional test was performed using prudent best estimate assumptions

SERT ratios and underlying components



Scenario Set	Assumption	Baseline adj DR	Max adj DR (#3 pop down)	Total PV benefits
		[a]	[b]	[c]
AIRG	**AE**	1,013,170	1,555,310	6,296,790
Z0	**AE**	1,077,760	2,264,180	6,523,710
Z3	**AE**	999,528	2,207,050	6,375,300
Z3	**PBE**	1,690,910	3,578,650	7,543,120

Commentary

- Transitioning from AIRG to Z0 scenarios significantly increases the SERT ratio due to a large rise in the maximum adjusted DR, outweighing a slight increase in PV benefits.
- Conning scenario revisions between Z0 and Z3 led to a minor increase to the SERT ratio, driven by lower PV benefits and a widened spread between baseline DR and max adjusted DR
- Changing assumptions from AE to PBE leads to a significant increase to the SERT ratio, driven by a significantly widened spread between baseline DR and max adjusted DR outweighing higher PV benefits

Z0 = 2024 GOES Field Test Scenario Set 1

AE = anticipated experience assumptions w/o margins

PBE = prudent best estimate assumptions w/ margins

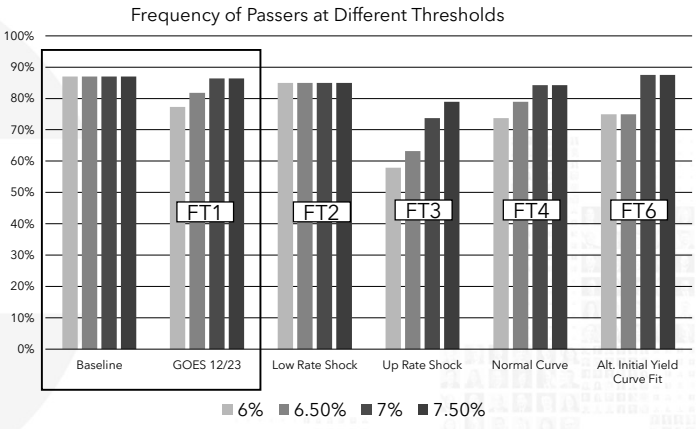
SERT ratios were most heavily impacted by the initial change from AIRG to Conning scenarios and the application of PBE assumptions

7

2024 Field Test Participant SERT Results

- 87% of the field test participants' model segments passed the SERT in their baseline YE23 run with a 6% threshold. This number dropped to 77% for the FT1 YE23 scenarios. Increasing the threshold to 7% brings the participant passing rate back up to a similar level.
- 58% of the FT3 (Up Rate Shock) field test participant model segments passed the SERT at the 6% threshold, increasing to up to ~80% if the threshold is increased to 7.5%. Note, we do not have comparative data on the frequencies of participants that would pass using the FT3 starting yield curve and AIRG SERT scenarios.

Frequency of Passing SERT by Field Test Run
All VM-20 Reserving Categories



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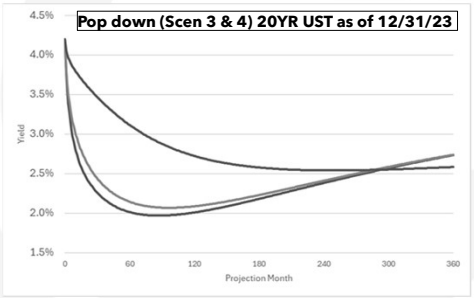
2025 SPRING NATIONAL MEETING / INDIANAPOLIS NAIC

APF 2025-04: Stochastic Exclusion Ratio Test

- 2024 field test data showed average SERT results increase for participants, with some additional failures resulting from switching to GOES
- **Question: Should the SERT scenario threshold be revised given the increase to average SERT scenario results?**



VM-20 Section 6.A.2.c

c. If the ratio calculated in Section 6.A.2.a above is less than 6[X]% pre-YRT reinsurance, but is greater than 6[X]% post-YRT reinsurance, the group of policies will still pass the SERT if the company can demonstrate that the sensitivity of the adjusted DR to economic scenarios is comparable pre- and post-YRT reinsurance.

1. An example of an acceptable demonstration:

a. For convenience in notation • SERT = the ratio (b–a)/c defined in (a) above

1) The pre-YRT reinsurance results are "gross of YRT," with a subscript "gy," so denoted $SERT_{gy}$

2) The post-YRT results are "net of YRT," with subscript "ny," so denoted $SERT_{ny}$

b. If a block of business being tested is subject to one or more YRT reinsurance cessions as well as other forms of reinsurance, such as coinsurance, take "gross of YRT" to mean net of all non-YRT reinsurance but ignoring the YRT contract(s), and "net of YRT" to mean net of *all* reinsurance contracts. That is, treat YRT reinsurance as the last reinsurance in, and compute certain values below with and without that last component.

c. So, if $SERT_{gy} \le 0.060$~~0~~[X]0 but $SERT_{ny} > 0.060$~~0~~[X]0, then compute the largest percent increase in reserve (LPIR) = (b–a)/a, both "gross of YRT" and "net of YRT."

$LPIR_{gy} = (b_{gy} - a_{gy})/a_{gy}$ $LPIR_{ny} = (b_{ny} - a_{ny})/a_{ny}$

Note that the scenario underlying b_{gy} could be different from the scenario underlying b_{ny}.

If $SERT_{gy} \times LPIR_{ny}/LPIR_{gy} < 0.060$~~0~~[X]0, then the block of policies passes the SERT.

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2025 SPRING NATIONAL MEETING / INDIANAPOLIS NAIC

APF 2025-04: Stochastic Exclusion Test Updates

SET Certification Method:

VM-20 Section 6.A.1.a.iii

SET Certification Method – For any groups of policies within the scope of VM-20, the qualified actuary may document that a group of policies has passed the exclusion test through an approach other than the SET Certification Method within the past three years and that there have not been material changes in the interest rate risk or asset return volatility risk inherent in the liabilities and supporting assets. Alternatively, fFor groups of policies other than variable life or ULSG, in the first year and at least every third calendar year thereafter, the company provides a certification by a qualified actuary that the group of policies is not subject to material interest rate risk or asset return volatility risk (i.e., the risk on non-fixed-income investments having substantial volatility of returns, such as common stocks and real estate investments). The company shall provide the certification and documentation supporting the certification to the commissioner upon request.

- SERT results provided by the 2024 GOES Field Test participants showed increased SERT ratios in the field test runs compared to the AIRG baseline. Some participants went from passing in their baseline SERT results to failing in the field test scenarios.
- **Question: Should additional flexibility to the SET be added to address volatility?**

Basis:

VM-20 Section 6.A.2.b.i.a

a) The DR defined in Section 4.A, but with the following differences:

~~1)~~ ~~Using anticipated experience assumptions with no margins.~~

~~2)~~1) Using the interest rates and equity return assumptions specific to each scenario.

~~3)~~2) Using NAER and discount rates defined in Section 7.H specific to each scenario to discount the cash flows.

- The SERT results are currently determined using anticipated experience with no margins.
- The 2024 GOES Field Test had one participant pass the SERT but calculate an ST that was higher than their DR or NPR.
- **Question: Should the SERT use prudent estimate assumptions?**

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ACLI
Financial Security for Life

Deterministic Reserve Scenario Analysis

March 22, 2025

11

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Deterministic Reserve Scenario

- The current deterministic reserve scenario (DR) is designed to have a particular relationship to the stochastic distribution.
  - Uniform shocks over the first 20 years to get down to the 84th percentile of 20-year shocks
  - No shocks after year 20 allowing rates to drift back to median based on mean reversion
- Unlike the AIRG, the Conning model does not have a straightforward way to replicate this, and the current approach is producing a DR that falls materially lower in the stochastic distribution of rates.
  - Focus is on relationship to stochastic distribution
  - Conning DR will be lower in absolute rates than AIRG DR. That is expected and not the issue.
- This would throw off the original design of the relationship between the deterministic reserve & stochastic reserve such that the DR would tend to drive final reserves.
  - Overriding the more refined, technically developed stochastic reserve
  - Resulting in higher reserves than industry expectations

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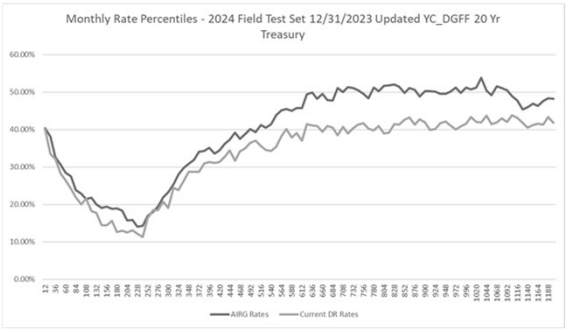
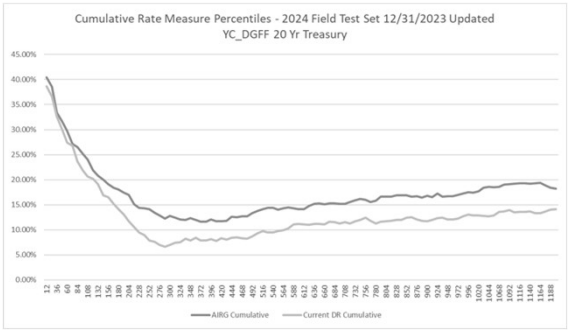
Comparison of Percentiles vs Stochastic of AIRG and Updates GOES

Cumulative factor is based on a gross wealth factor type approach
$CumulativeFactor_t = CumulativeFactor_{t-1} * MonthlyRate^{(1/12)}$





Field Test Deterministic Scenario percentile relationship with the stochastic distribution is materially lower than AIRG.
- The rates in the first 20 years fall below the 16th percentile
- The rates never return to median
- Cumulative rate measure percentiles show compounding effect of consistently falling below the AIRG percentiles, especially in first 20 years

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Alternative Deterministic Reserve Scenario Approaches

- The goal of changing the DR approach is to re-align DR to their originally designed relationship with stochastic distribution.
- Recommended approach: Adding an adjustment to the underlying shocks to re-align percentiles (formulaic notation to be provided)
  - Current preference would be to **add .01 to shocks** in all years is current best fit; easier implementation and maintain proper relationships among rates and returns
  - May want to review methodology if updates to calibration of the interest rate model (e.g., updates to the mean reversion parameters) as part of the 5-year review
- Other options explored:
  1. Adjusting only the later years to median
     - Leaves early year issues
  2. Calculate DR outside of GOES based on percentiles of stochastic scenarios
     - Additional work outside of model; complicates projecting reserves
     - Concern about maintaining proper relationships amongst rates/returns
  3. Euler – Alternative suggested mathematical method
     - Not recommended: larger deviation vs stochastic

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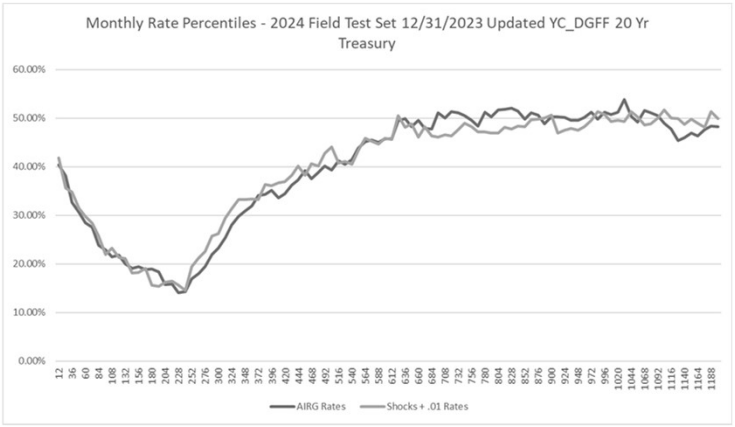
AIRG (Target) vs. Shocks + .01



Adjusting the shocks upwards by defined amounts improves the relationship of the DR to the stochastic distribution. Initial analysis indicates .01 resulting in a closer fit to AIRG percentiles

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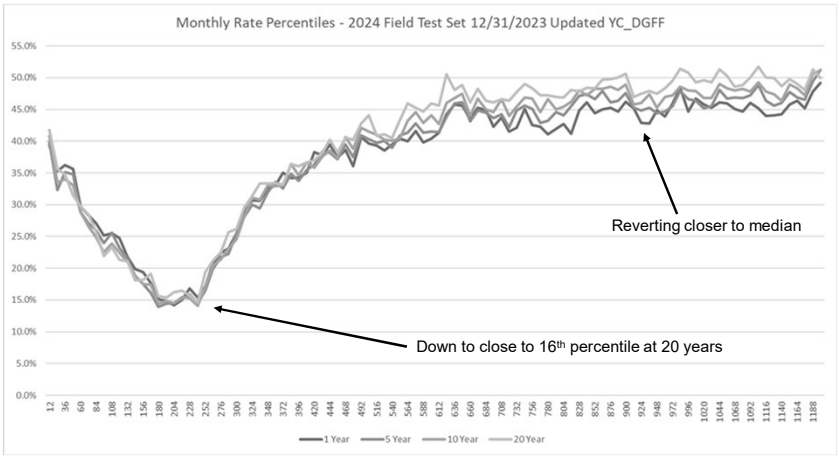
Evaluating Approach for Different Tenors – Shocks + .01



Approach of adding shocks by a flat .01 results in stable percentile relationships

16

*Comparable graph based on Current DR approach in Appendix

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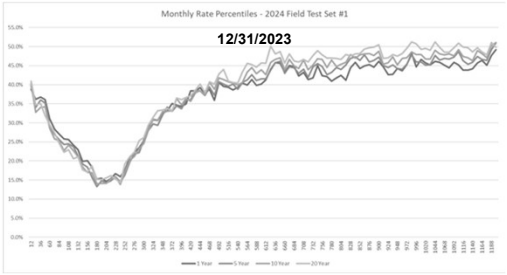
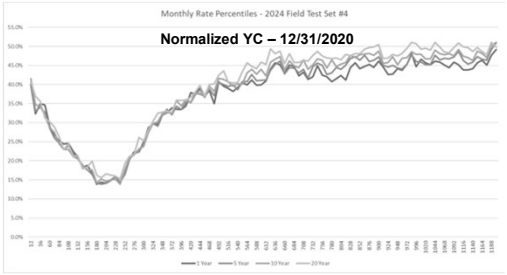
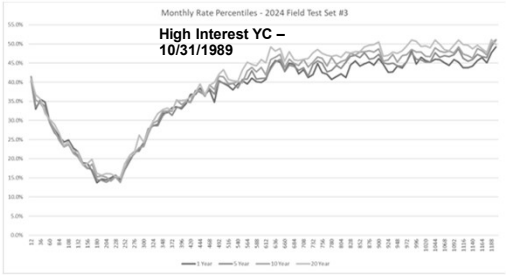
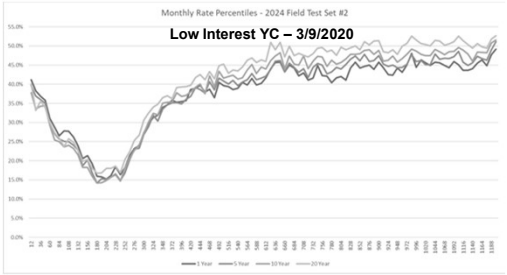
Evaluating Approach Across Scenario Sets – Shocks + .01









Approach of adding shocks by a flat .01 results in relatively stable percentile relationships across different scenarios

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Appendix

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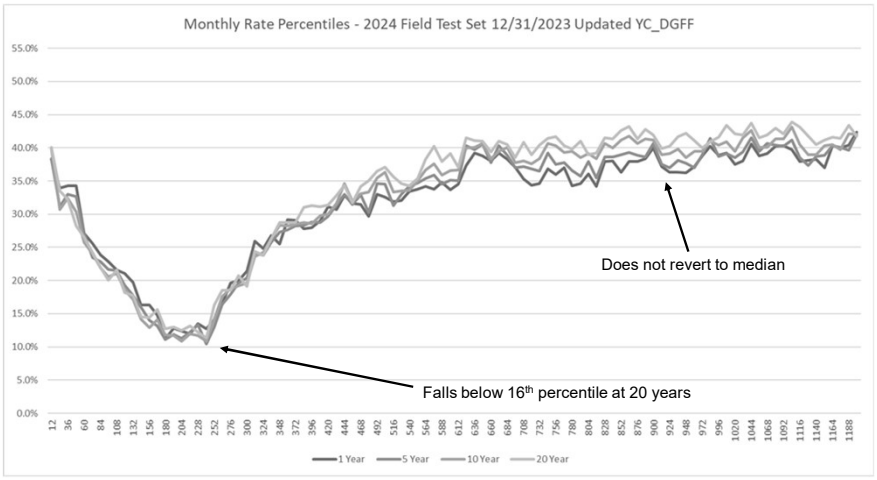
Evaluating Approach for Different Tenors – Current DR Approach



Current approach consistently falls below targeted AIRG percentiles

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GOES Model Governance: Fallback Plan

Interested Party Comments

- There should be a well-defined communication, escalation, and fallback plan if something unexpected occurs during scenario generation (as well as a business continuation plan for other potential disruptions). Year-end and quarter-end valuations are typically the most critical and require tighter recovery / resolution times.
- In what situations would NAIC pause the release of scenarios? How would the process be handled after escalation to reach resolution?
- …up to a one-day delay would be acceptable. If there is a significant issue identified after scenarios are posted, then there is a larger discussion to be had beyond having a contingency plan such as allowing companies to revert back to the previous month's scenarios with any appropriate adjustments…

Ideas for Discussion

- Different approaches for different situations:
  - Interim month-end vs. quarter/year-end
  - Minor issue in which corrected scenarios can be released on EOM + 2 vs. prolonged posting delay
  - Issue caught during standard Conning/NAIC review or days later by interested party
- Potential Resolutions:
  - Use of prior month-end scenarios
  - Additional day delay to post scenarios with communication to industry
  - NAIC using Conning software to produce and post scenarios

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GOES Model Governance: Scenario Review

Interested Party Comments

- The latest set of acceptance criteria includes "targeting criteria" and "evaluation statistics." These should be defined in the governance framework to clarify how they will be used in determining whether scenario sets are acceptable.
- Validation reports need to show how well the model performs against acceptance criteria and stylized facts. It may be helpful to provide more detail on the process / thresholds to determine whether a scenario set is acceptable, while still allowing for appropriate use of judgment.

Ideas for Discussion

- Idea of "Dashboard" has been proposed to allow for the quick review of the scenarios against the acceptance criteria.
- Many of the regulator adopted targeting criteria and evaluation statistics are not dependent on the starting economic environment.
  - For example, Targeting Criteria T1.T defines how many high rates that are permissible. In starting environments with higher interest rates, these criteria may not be appropriate.
- Development of more robust thresholds and dynamic criteria could be considered as a "Day II" item.

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GOES Model Governance: Periodic Updates

Interested Party Comments

- ACLI would suggest regularly scheduled meetings for discussion about whether there is a need for model or calibration updates. Such discussions could also make it easier to identify items for the 5-year recalibration and model revisions (or sooner if deemed necessary) and off-cycle model updates as described in the draft framework.
- The 5-year review should be a comprehensive model review and include assessing the continued suitability of the model form/structure (which may include evaluation of vendor limitations) and not limited to the recalibration of the existing model.
- The 5-year review process should commence well before 5 years has elapsed. (Starting the process in 5 years would delay any update significantly beyond 5 years.)

Ideas for Discussion

- A 5-year calibration cycle, annual back testing report, and situational off-cycle updates are all currently envisioned as part of the model governance framework. The annual back testing report could illustrate the need for an off-cycle update.
- Next draft of model governance framework should establish a timeline for work on the five-year recalibration.
- Conning routinely performs research on economic scenario generators and adds or revises features to their economic scenario generator offerings. The timing and process for accepting model enhancements should be clearly defined.

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GOES Model Governance: Alternative Models

Interested Party Comments

- While not specifically related to governance, we would appreciate a future opportunity to discuss whether proprietary models that comport with the stylized facts and are within the thresholds for targeting criteria and evaluation statistics facts would be acceptable for valuation purposes. We note that developing these thresholds is something ACLI and our team of subject matter experts are currently working so this is a topic we would be willing to present on in the coming weeks.

Ideas for Discussion

- Current Valuation Manual requirements allow for the use of alternative economic scenario generators. For example, VM-21 allows for the use of non-prescribed generators provided that the Total Asset Requirement (TAR) is not materially understated.
- Prior to VM-21, proprietary equity models were allowed provided that they met calibration criteria. However, this would be a new concept for the Valuation Manual.

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GOES Model Governance: Proprietary Bond Model

Interested Party Comments

- ACLI members have also identified questions due to the proprietary nature of certain aspects of the model, particularly the Corporate Model.
  - It is common practice for companies to replicate models to help manage their business (e.g., projecting future reserves / capital requirements for capital / risk management). We are concerned that an NDA would restrict this ability; we would be comfortable if the NDA explicitly prohibits the documentation from being used for any purpose external to the company or for commercial purposes.
  - Further, it is unclear how ACLI could have discussions related to aspects of the generator that are proprietary. If not all of our members have signed an NDA, it would seem we would not be able to discuss those items at all. This would also be an issue for any public discussions.

Ideas for Discussion

- Companies are not restricted from developing models that could produce scenarios similar enough to meet their needs.
- Companies could bring issues to Conning, NAIC Staff, and state insurance regulators.
- Conning could consider partial release from the NDA to discuss particular issues on a case-by-case basis.

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Next Steps

Continue Work of the GOES (E/A) Subgroup

- NAIC Staff will utilize feedback to revise the draft Model Governance Framework. A revised draft will be taken to the GOES (E/A) Subgroup to discuss high-priority revisions.
- The GOES (E/A) Subgroup will continue to discuss any remaining implementation items.

Work Towards GOES Adoption

- A joint meeting of the Life Actuarial (A) Task Force and the Life RBC (E) Working Group will be scheduled to confirm key decisions made at the GOES (E/A) Subgroup level.
- The Life Actuarial (A) Task Force will need to adopt APF 2025-04 by mid-year 2025. The Life RBC (E) Working Group will need to adopt blanks changes by mid-year 2026.

Prepare for Implementation

- NAIC Staff and Conning will work to build out governance processes and production scenario posting procedures.
- Documentation will be updated, enhanced, and streamlined into a comprehensive document.

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Appendix
2024 GOES Field Test Results

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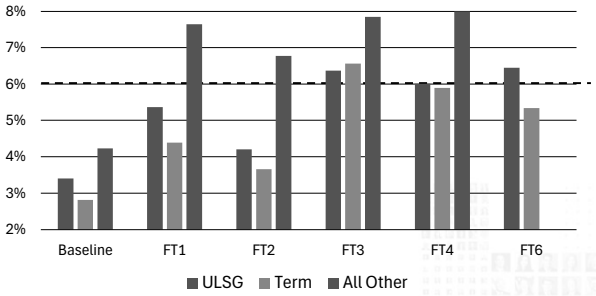
2024 Field Test Participant SERT Results

- For the 12/31/23 GOES FT1 scenarios compared to the Baseline (AIRG) SERT scenarios:
  - The average SERT ratio increased across all VM-20 reserving categories, and
  - Each reserving category saw one participant's model segment that had passed with the Baseline fail with the GOES SERT scenarios.
- The average SERT ratio across each reserving category was significantly impacted by increases to the model segment that failed with the Baseline
- FT3 ("Up Rate Shock") saw the most model segments fail, particularly in the term model segment.
- No additional "All Other" model segments failed the field test SERT scenarios

Average Participant SERT Ratio by Reserving Category



Number of Passing Participant Model Segments/Total Participant Model Segments

VM-20 Reserving Category	Baseline	FT1 12/31/23	FT2 Low Rate Shock	FT3 Up Rate Shock	FT4 Normal Yield Curve	FT6 Alt. Initial Yield Curve Fit
ULSG	6/7	5/7	6/7	4/7	5/7	4/6
Term	10/11	8/10	7/8	3/7	5/7	5/7
All Other	4/5	4/5	4/5	4/5	4/5	

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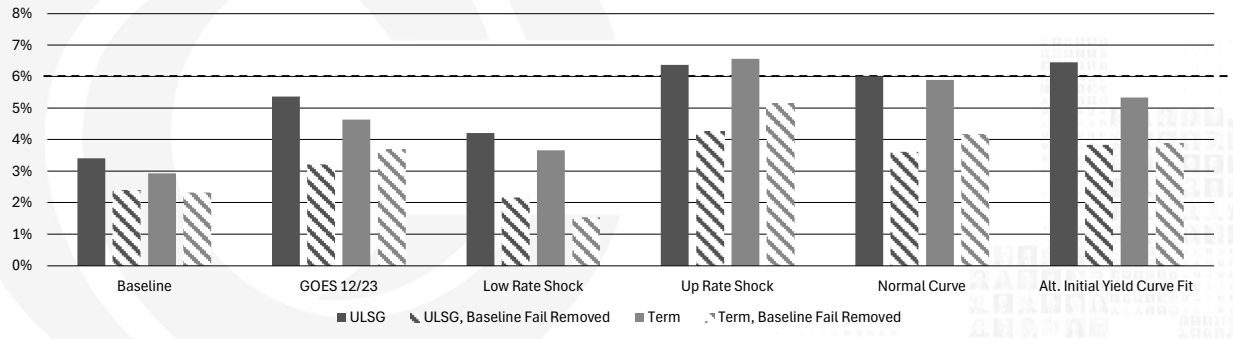
2024 Field Test Participant SERT Results

- For the Term and ULSG reserving categories, when the model segment that is failing in the baseline is removed:
  - the average SERT ratios go down significantly.
  - the average SERT ratio is never above the passing threshold.
- There were not enough participants to show for the "All Other" VM-20 Reserving Category



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APPENDIX – Model Office SERT Scenario Level results

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SCENARIO LEVEL RESULTS - ADJUSTED DR

SERT Scenario	AIRG	Z0	Z3	Z3 Prudent
1 – Pop up, high equity	448,508	280,851	223,119	437,636
2 – Pop up, low equity	448,508	280,851	223,119	437,636
3 – Pop down, high equity	1,555,310	2,264,180	2,207,050	3,578,650
4 – Pop down, low equity	1,555,310	2,264,180	2,207,050	3,578,650
5 – Up/down, high equity	830,102	789,954	707,633	1,231,650
6 – Up/down, low equity	830,102	789,954	707,633	1,231,650
7 – Down/up, high equity	1,178,630	1,353,220	1,287,620	2,113,200
8 – Down/up, low equity	1,178,630	1,353,220	1,287,620	2,113,200
9 – Baseline scenario	1,013,170	1,077,760	999,528	1,690,910
10 – Inverted yield curves	930,815	875,015	839,873	1,451,040
11 – Volatile equity returns	1,013,170	1,077,760	999,528	1,690,910
12 – DR scenario	1,300,920	1,689,200	1,604,060	2,618,240
13 – Delayed pop up, high equity	663,608	532,833	474,967	841,649
14 – Delayed pop up, low equity	663,608	532,833	474,967	841,649
15 – Delayed pop down, high equity	1,277,230	1,671,340	1,585,740	2,587,390
16 – Delayed pop down, low equity	1,277,230	1,671,340	1,585,740	2,587,390

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SCENARIO LEVEL RESULTS - TOTAL PV BENEFITS

SERT Scenario	AIRG	Z0	Z3	Z3 Prudent
1 – Pop up, high equity	5,247,808	4,954,830	4,808,978	5,374,781
2 – Pop up, low equity	5,247,808	4,954,830	4,808,978	5,374,781
3 – Pop down, high equity	7,236,575	8,468,330	8,379,609	10,362,714
4 – Pop down, low equity	7,236,575	8,468,330	8,379,609	10,362,714
5 – Up/down, high equity	5,891,597	5,866,760	5,699,969	6,641,930
6 – Up/down, low equity	5,891,597	5,866,760	5,699,969	6,641,930
7 – Down/up, high equity	6,652,163	7,118,032	7,002,948	8,356,130
8 – Down/up, low equity	6,652,163	7,118,032	7,002,948	8,356,130
9 – Baseline scenario	6,296,786	6,523,711	6,375,300	7,543,123
10 – Inverted yield curves	6,110,477	6,021,058	5,969,316	7,023,407
11 – Volatile equity returns	6,296,786	6,523,711	6,375,300	7,543,123
12 – DR scenario	6,746,353	7,447,647	7,301,762	8,850,344
13 – Delayed pop up, high equity	5,844,807	5,791,079	5,665,601	6,470,649
14 – Delayed pop up, low equity	5,844,807	5,791,079	5,665,601	6,470,649
15 – Delayed pop down, high equity	6,627,257	7,265,034	7,109,860	8,614,814
16 – Delayed pop down, low equity	6,627,257	7,265,034	7,109,860	8,614,814

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Draft: 3/13/25

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
February 26, 2025

The GOES (E/A) Subgroup of Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Feb. 26, 2025. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Matt Cheung (IL); Scott Shover (IN); Ben Slutsker (MN); William Leung (MO); Seong-min Eom (NJ); William B. Carmello (NY); and Rachel Hemphill (TX).

1. Discussed the Model Office Results of the Latest GOES Updates

Scott O'Neal (NAIC), Cameron Sakurai (Oliver Wyman), and Simon Gervais (Oliver Wyman) walked through a presentation on GOES model office results (Attachment Twenty-Six-A). The purpose of the model office was to test the impact of changes to the scenarios from: 1) revising the initial yield curve fitting methodology; 2) changing the flooring to a dynamic generalized fractional floor (DGFF); and 3) recalibrating the equity model for better alignment to the acceptance criteria in the lower-tail accumulated returns.

Randall McCumber (Lincoln Financial Group) noted that the relatively muted impacts of interest rate shocks on the variable annuity (VA) model office make sense given the investment strategy in the model is a 10-year bond; however, he wanted to learn if that would change for longer duration investment strategies. Sakurai replied that a sensitivity test where the reinvestment strategy also included 20-year bonds was calculated and did not move the results much compared to the life model office.

Regarding the VA model office analysis, Connie Tang (Retired) asked if the first percentile gross wealth factors (GWFs) in the 1,000-scenario set were consistent with the full 10,000 set. O'Neal responded that he would perform that analysis and provide a comparison. Tang also asked how the scenario changes impacted the other model office cohorts, which were not shown in the presentation. Gervais replied that they would add information from the other cohorts and redistribute the presentation.

Yanacheak concluded the discussion by stating that the model office results aligned with his expectations. However, he asked for feedback from companies if they see any distinct results in their testing of the revised scenarios.

2. Referred Two Documents to the Variable Annuities Capital and Reserve (E/A) Subgroup and Life Risk-Based Capital (E) Working Group Regarding GOES for Capital Calculations

O'Neal walked through two referral documents (Attachment Twenty-Six-B and Attachment Twenty-Six-C) to the Variable Annuities Capital and Reserve (E/A) Subgroup and Life Risk-Based Capital (E) Working Group that ask for assistance in effectuating the GOES for capital calculations. Yanacheak asked if any Subgroup members objected to sending the referrals.

Hearing no objection, Yanacheak said that he would work with Weber and O'Neal to send the referrals.

Having no further business, the GOES (E/A) Subgroup adjourned.

OliverWyman

GOES MODEL OFFICE RESULTS

Revised scenarios

2/26/2025

A business of Marsh McLennan

CONFIDENTIALITY

VM-21 PROJECTIONS

Component	Description of functionality
Liability modeling	• Liability cash flows for model office comprised of the following product features: – Base variable annuity contract and a variety of GMxBs (GLWB, GMDB, GMIB) with typical features and charges • Modeled on a direct basis only (i.e., without reinsurance)
Asset modeling	• Guardrail VM-21 prescribed strategy**:** 10-year bonds with ratings A and AA consistent with the guardrail prescribed under VM-21
Calculations	• Outer loop cash flows under best estimate assumptions and input deterministic scenarios • Pre-tax asset and liability projections under input stochastic scenarios reflecting all cashflows under prudent best estimate and VM-21 prescribed assumptions • Inforce asset iteration at valuation date under input stochastic scenarios to achieve no GPVAD • Fair value of living benefit riders on annual timesteps to support implicit hedging approach
Assumption sets	• Best estimate • Prudent best estimate • VM-21 standard projection prescribed
Hedging	• Employs the "cost of reinsurance" method (i.e., implicit method) in the best efforts run, option cost is charged at time 0 and rider fees and claims are removed
Reporting	• Stochastic reserve (CTE70 pre-tax under adjusted and best efforts hedge) • Standard projection add-on under CTEPA method (CTE70 under prescribed in excess of SR, subject to CTE70 – CTE65 unfloored buffer) • C3 at 100% RBC (CTE98 pre-tax and subsequent calculations). Note: C3 will be unsmoothed

VM-21 MODEL OFFICE

In-force archetypes were created using a model office creation toolkit and varied by driving characteristics. A wide range was used in determining variation in driving characteristics to capture a range of impacts to compare against field testing

Characteristic	Variations	Values
GMWB guarantee strength	Weak guarantee	**Rollup rate:** 3% **Income rates:** 4.0% - 5.5% based on attained age
	Strong guarantee	**Rollup rate: 7**% **Income rates:** 5.5% - 7.0% based on attained age
Hedging	Hedged	**Hedge modeling:** Implicit method
	Unhedged	**Hedge modeling:** None
Block maturity	New	**Issue year:** 2022 **Average age:** 66 **Percentage of GMWB contracts taking income:** 20%
	Mature	**Issue year:** 2007 **Average age:** 75 **Percentage of GMWB contracts taking income:** 75%
Moneyness	OTM / ATM / ITM	**OTM:** Benefit Base is 90%-100% of AV **ATM:** Benefit Base is 100%-110% of AV **ITM:** Benefit Base is 110%-140% of AV
Other	Static inputs	**M/F sex split:** 50/50 **Q/NQ split:** 65/35 **Equity allocation:** 70%

VM-20 ULSG PROJECTIONS AND MODEL OFFICE DESCRIPTION

Model assumptions and product features were selected based on industry benchmarks to be a simplified representation of products currently offered

Projection model details	▪ Universal life with shadow design lifetime secondary guarantee issued in 2020 ▪ Time 0 reserves are held in 50% 5-year BBB bonds and 50% 7-year BBB bonds ▪ Reinvestment strategy uses 50% A/AA corporate bonds – 10% 5-year – 25% 7-year – 35% 10-year – 25% 20-year – 5% 30-year
Best estimate assumptions	▪ Follows industry benchmark assumptions ▪ Mortality experience is 100% credible with 25 years of sufficient data ▪ UL crediting rate is dynamic and based on NAER less a spread, varying for each stochastic scenario
Prudent estimate assumptions	▪ VM-20 prescribed mortality margins based on credibility and sufficient data period ▪ Minimal lapse when policy maintained in-force by NLG (i.e. CSV = 0)

GOES SCENARIO UPDATES

REVISIONS TO GOES

Z1 **Initial Treasury Yield Curve Fitting Methodology:** The revised initial yield curve fitting methodology places more emphasis on the longer maturities for greater alignment with insurance company investment strategies.

Z2 **Dynamic Generalized Fractional Flooring (DGFF):** The DGFF methodology is an extension of the previous generalized fractional floor and the parameters are set to target a 3% level of negative 1-year UST rates in the steady state.

Z3 **Equity Calibration:** The revised equity calibration raises the 1st percentile gross wealth factors (GWFs) of the Large Capitalization equity fund to be closer to the acceptance criteria targets compared to the prior 2024 field test calibration.

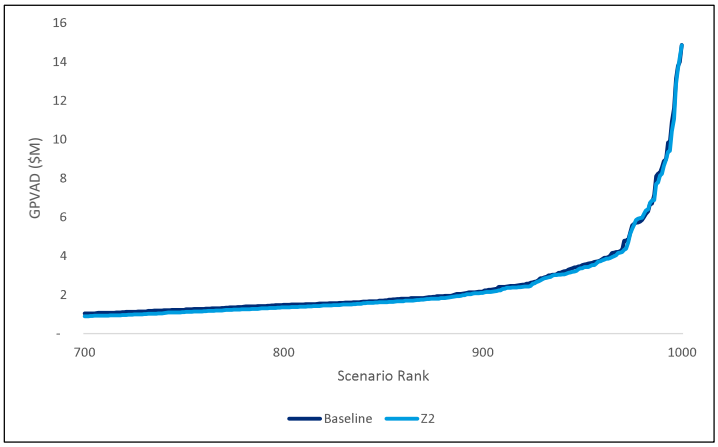
VM-20 ULSG STOCHASTIC RESERVE – REVISED SCENARIO IMPACTS

The Stochastic Reserve ("SR") was produced using a 1,000 scenario subset of the GOES scenario sets

CTE's of scenario reserves

Scenario Set	CTE70 (SR)	CTE95	CTE98
Baseline	2,527,536	6,396,504	9,405,700
Z1 vs Baseline	-3.26%	+0.88%	+1.70%
Z2 vs Z1	-1.45%	-2.84%	-3.45%
Z2 vs Baseline	-4.66%	-1.99%	-1.81%

CTE70 scenario reserves



Observations

- The cumulative impact to the adjusted CTE reserves from the scenario revisions is moderate
- Changes to yield curve fitting (Z1) had opposing impacts to CTE-70 and CTE-98
- UST flooring (Z2) impacts are slightly more pronounced in the extreme tail, relative to Z1

Z3 scenario set was not in scope for the VM-20 testing since equity calibration would not affect ULSG

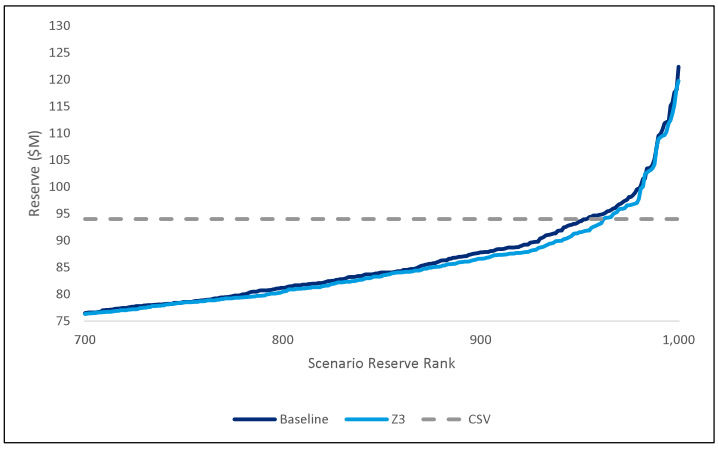
VM-21 VA STOCHASTIC RESERVE – REVISED SCENARIO IMPACTS

The New/ Weak / ITM archetype scenario reserves for the CTE70 adjusted are graphed below on an unfloored basis

Unfloored CTE adjusted scenario reserve metrics

Scenario Set	CTE70	CTE95	CTE98
Baseline	100,463,924	101,327,971	107,032,539
Z1 vs Baseline	-0.08%	-0.45%	-0.54%
Z2 vs Z1	-0.00%	-0.00%	+0.00%
Z3 vs Z2	-0.10%	-0.90%	-0.40%
Z3 vs Baseline	-0.18%	-1.35%	-0.94%

Unfloored CTE70 adjusted scenario reserves



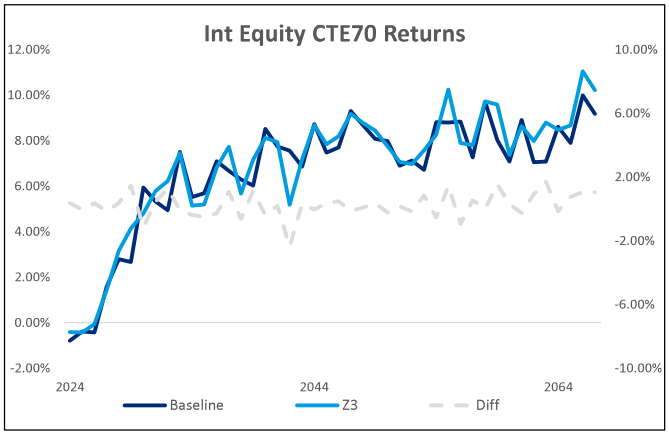
Observations

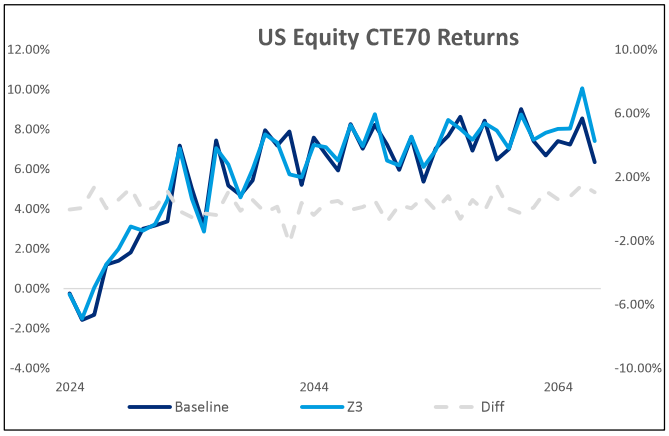
- The cumulative impact to the CTE adjusted reserves from the scenario revisions is minor
- Changes to yield curve fitting and UST flooring (Z1, Z2) had minor impacts
- Updates to the equity calibration (Z3), while still minor, led to an overall decrease in scenario reserves
- Impacts are more pronounced in the tail

OTM and ATM archetypes tested showed lesser but similar impacts than the ITM archetype impacts shown above

POLICY HOLDER INVESTMENT ACCOUNT RETURNS

Z0 vs Z3 scenario returns for international equity and US equity markets



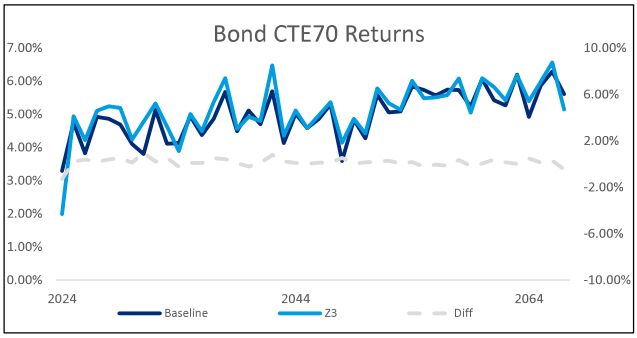


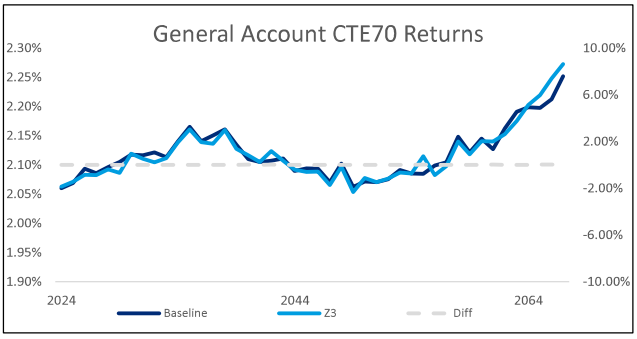
Observations

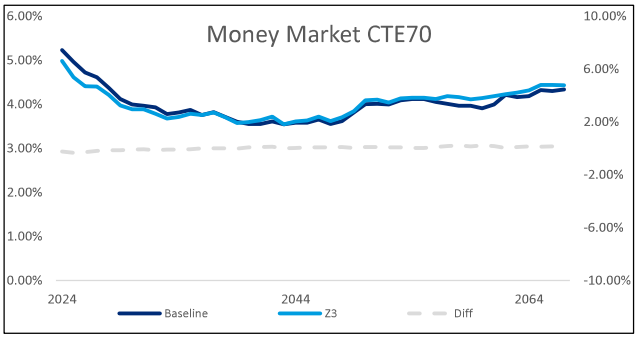
- Consistent with Z3 scenario revisions, which improve equity returns for tail scenarios, we observe a slight increase in average equity returns for the CTE70
- As expected, CTE70 scenarios are characterized by an early drop in equity returns in both baseline and revised scenario sets

POLICY HOLDER INVESTMENT ACCOUNT RETURNS

Z0 vs Z3 Scenario Returns for bond, interest rate, and money markets







Observations

- Fixed income markets showed minor impact from scenario revisions
- Revisions to the scenario treasury rates had minimal impacts to VA results, given that most of the model office deposits are allocated to equities

APPENDIX – PHASE 1 FIELD TEST RESULTS

VM-20 RESULTS

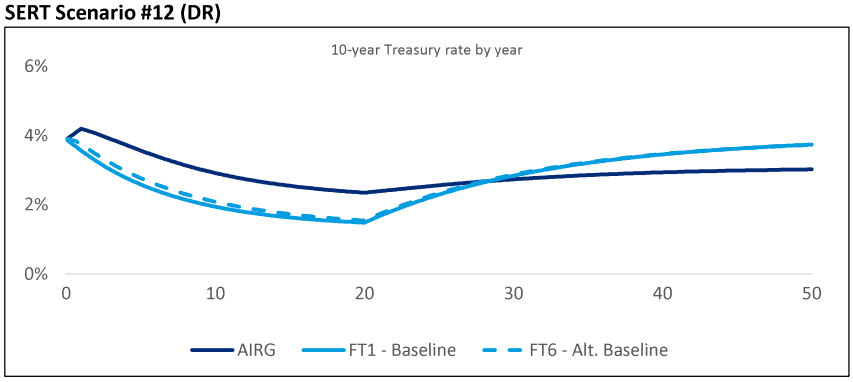
DETERMINISTIC RESERVE – BASELINE SCENARIO IMPACT

The Deterministic Reserve ("DR") is produced using scenario 12 of the SERT scenario set

Term and ULSG Results (000s)

Scenario Set	Term DR	Change from AIRG	ULSG DR	Change from AIRG
AIRG	108		2,325	
FT1 Baseline	129	+19%	2,879	+24%
FT6 Alt. Baseline	134	+24%	2,765	+19%

SERT Scenario #12 (DR)



Commentary

- Per VM-20 Appendix 1 the DR scenario (#12) **shocks Treasury rates for years 1-20** and should be **one standard deviation** from the baseline scenario
- The **volatility of GOES** scenarios result in a significantly **larger downward shock** than under AIRG
- **Long-term rates are higher** in the GOES scenario sets than AIRG
- There is minimal impact to results between the GOES FT1 baseline and FT6 alternative baseline
- **Starting assets are held in cash and reinvested at time 0.** The use of 2-year bonds for Term (10-year bonds for ULSG) allows the analysis to reflect the impact of differences in the yield curve at multiple durations; **more robust Asset-Liability Matching ("ALM") practices would mitigate impacts**
- As a result of the significantly lower rates in earlier durations, GOES baseline scenarios are producing a roughly **20% increase to the DR** for both Term and ULSG

The GOES DR scenario has significantly lower Treasury rates for years 1-20 and results in an increase to the DR for Term and ULSG

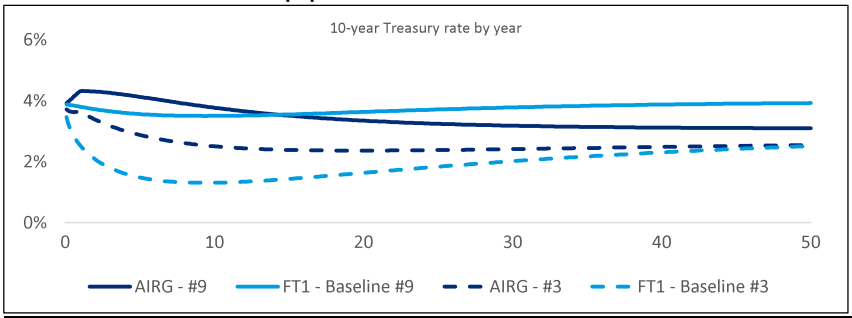
SERT RESULTS – BASELINE

SERT results across the AIRG and GOES Field Test sensitivity scenarios are summarized in the table below, the passing threshold is 6%

Term and ULSG results (000s)

	Term		ULSG	
Scenario Set	Max reserve (#3 pop down)	SERT ratio	Max reserve (#3 pop down)	SERT ratio
AIRG	95	3.6%	1,625	8.6%
FT1 Baseline	129	6.3%	2,281	19.0%
FT6 Alt. Baseline	136	6.6%	2,240	20.2%

SERT #9 – Baseline vs SERT #3 pop down



Commentary

- Under GOES, the **baseline SERT scenario (#9)** which is an un-shocked yield curve, is showing slightly **lower Treasury rates in early projection years** and **higher Treasury rates in later years**, due to a higher mean reversion parameter
- Per VM-20 Appendix 1, the **pop down scenario** is described as having an **interest rate shock** selected to maintain the cumulative shock at the 10% level.
- The **wider dispersion** of Treasury rates under GOES results in a **significantly larger shock to Treasury rates**
- The **maximum reserve** calculation for the SERT is **increased significantly** and results in **higher SERT ratios** than under AIRG for the same liability profile
- The determination of the **SERT ratio may need to be reviewed** or the **scenario generation process may need to be further calibrated** to ensure the Exclusion Test's objectives are appropriately met

Similarly to the DR scenario, the SERT baseline (#9) and pop down (#3) scenario sets are showing a wider dispersion of rates than AIRG

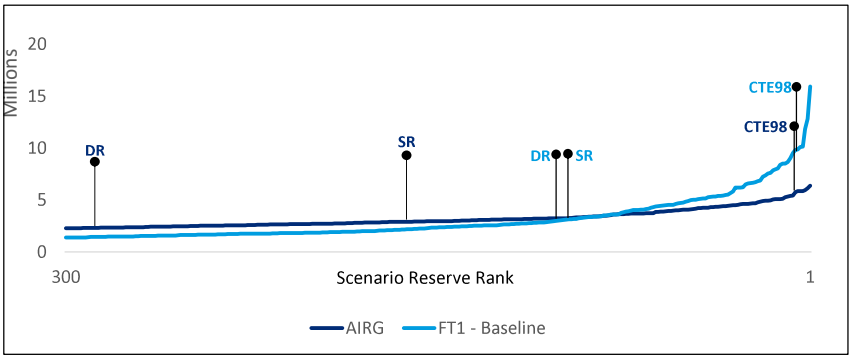
STOCHASTIC RESERVE – BASELINE SCENARIO IMPACT

The Stochastic Reserve ("SR") was produced using a 1,000 scenario subset of the AIRG and GOES scenario sets

ULSG Results (000s)

Scenario Set	DR	Change from AIRG	SR	Change from AIRG	CTE98	Change from AIRG
AIRG	2,325		3,229		5,417	
FT1 Baseline	2,879	+24%	3,167	-2%	9,336	+72%
FT6 Alt. Baseline	2,765	+19%	2,847	-12%	8,247	+52%

CTE70 Scenario Reserves



Commentary

- The GOES scenarios set are producing results that are **largely consistent with AIRG at the CTE70 level**
- The **spread between the "worst" and "best" CTE70 scenario** is much **wider under GOES**, explained by the broader range of yield curve paths
- For nearly **two thirds of the CTE70 scenarios**, the **AIRG is producing higher reserves than under GOES**
- The deep **tail scenarios are significantly more severe under GOES**. In comparison to the AIRG, the CTE98 increases over 70% for FT1 and 50% for FT6
- Given there is **no scenario reserve flooring under VM-20**, The sharp **increase in tail scenario reserves** is partially offset by the small **favorable impact from scenarios below VaR90** where AIRG produced higher reserves than GOES
- Under GOES, the **SR is higher than the DR** by a significantly **smaller margin than under AIRG**, driven by the strengthening of the DR

The impact of the sharp increase in deep tail scenarios is mitigated by the decrease in less adverse scenarios included in the CTE70

VM-21 RESULTS

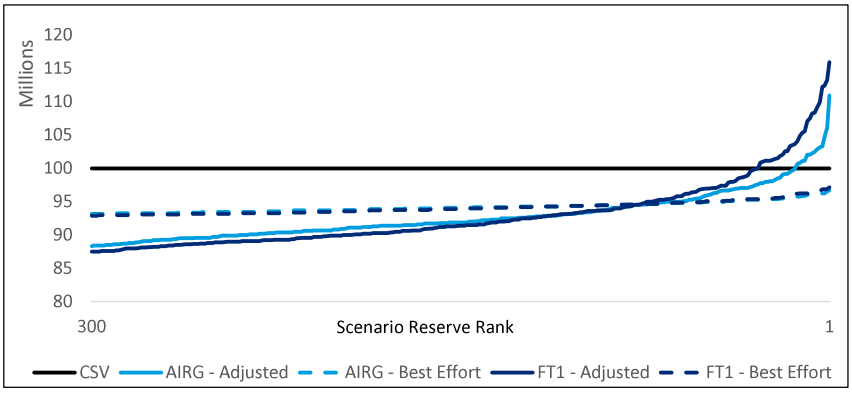
STOCHASTIC RESERVE – BASELINE SCENARIO IMPACT

The Mature / Strong / ATM cohort scenarios reserves for the CTE70 are graphed for AIRG and FT1 under the unfloored adjusted and best effort runs

Unfloored CTE70 adjusted scenario reserve metrics

Scenario Set	CTE70	CTE80	CTE90	CTE95	CTE98
AIRG	93	94	97	99	102
FT1 - Baseline	93	95	99	102	107

Unfloored CTE70 scenario reserves



Commentary

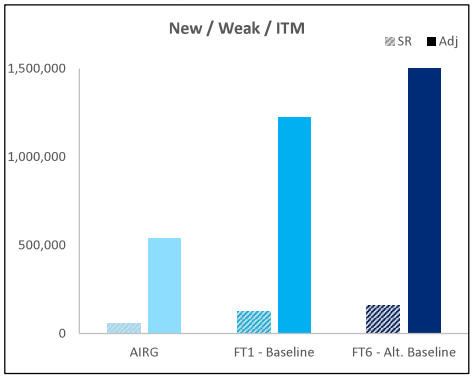
- GOES scenarios are producing **larger adjusted scenario reserves than AIRG for tail scenarios**
- Severity of adverse impact to tail scenarios are the result of **increased volatility to equity returns and Treasury rates under GOES**
  - **Equity returns in tail scenarios are lower** than under the AIRG, leading to increased claims and reduced fees
  - **Treasury rates in tail scenarios are lower than under AIRG and may go negative**, leading to lower investment income and higher discounted claims
  - Deep tail scenarios exhibit low equity returns and Treasury rates
- **CSV flooring at the scenario level has a significant impact under GOES**, preventing impacts from less adverse scenarios from offsetting the increase to tail scenario reserves
- The profile of the underlying inforce may have a significant impact to CTE70 and impact of flooring

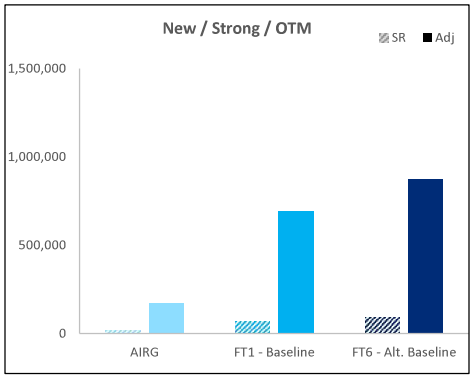
Results from the GOES are more adverse than AIRG the further we go in the tail, with a 5% increase to CTE98 adjusted

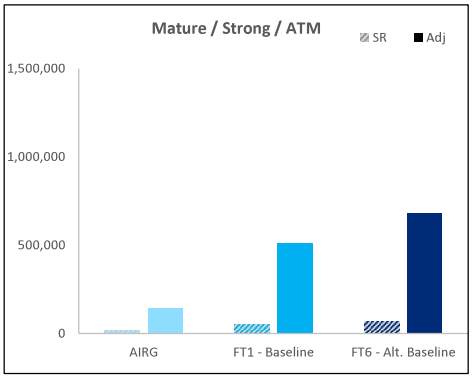
BASELINE SCENARIOS – RESERVES COMPARISON

Comparison of VM-21 reserves in excess of CSV for all three cohorts, outlining the difference between the AIRG, the **GOES baseline**, and the **alternative baseline** reserves

VM21 SR and CTE (adjusted) ("Adj") reserves in excess of CSV







CTE70 (adjusted) by archetype (000s)

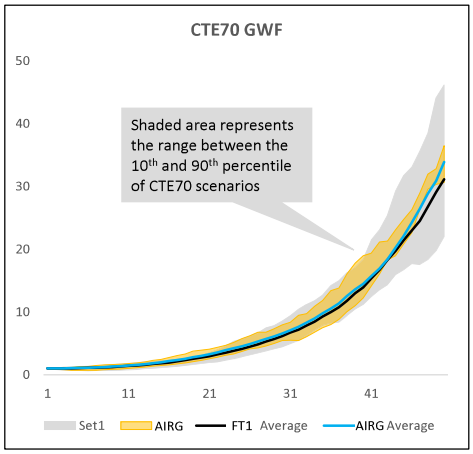
Archetype	AIRG [A]	GOES FT1 [B]	GOES Alt. Baseline [C]	([B] – [A]) / [A]	([C] – [B]) / [B]
New / Weak / ITM	540	1,223	1,542	126%	26%
New / Strong / OTM	171	693	876	303%	26%
Mature / Strong / ATM	145	509	684	251%	34%

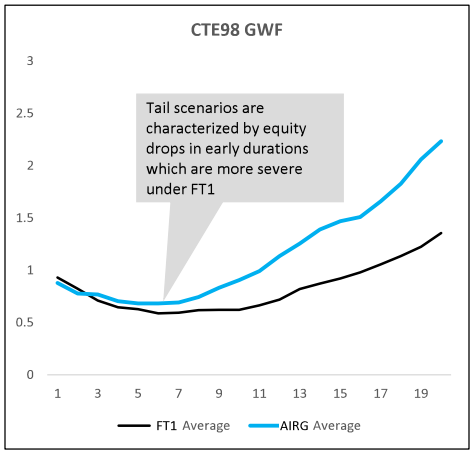
GOES FT1 produces higher reserves than the AIRG as a result of compressed equity returns in the tail and lower Treasury rates in early durations. The alternative baseline produced similar but slightly more adverse results than FT1

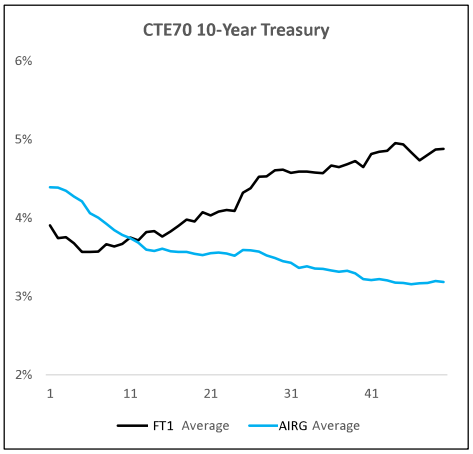
BASELINE SCENARIOS – SCENARIO ANALYSIS – MATURE / STRONG / ATM COHORT

Comparison of average accumulated gross wealth factors ("GWF") and 10-Year Treasury curve for CTE70 and CTE98 scenarios over 50 years of projection for the Mature / Strong Guarantee / ATM cohort

Mature / Strong Guarantee / ATM Cohort







Average equity return from GOES scenarios is similar to AIRG at the CTE70 and CTE98 levels but more disbursed and adverse in the tail; lower GOES rates in earlier years are producing adverse results despite reverting to a higher mean in later years

QUALIFICATIONS, ASSUMPTIONS, AND LIMITING CONDITIONS

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MEMORANDUM

TO: Peter Weber, Chair, Variable Annuities Capital and Reserve (E/A) Subgroup
Matt Cheung, Vice Chair, Variable Annuities Capital and Reserve (E/A) Subgroup

FROM: Mike Yanacheak, Chair, Generator of Economic Scenarios (GOES) (E/A) Subgroup
Peter Weber, Vice Chair, GOES (E/A) Subgroup

RE: GOES and Changes to C3 Phase II Capital Metric

DATE: February 12, 2025

The GOES (E/A) Subgroup has been working to implement a new economic scenario generator for use in statutory reserve and capital calculations for life insurance and annuities. It is planned that the new economic scenario generator will be effective for C3 Phase II for year-end 2026. One of the goals of the project to implement the GOES has been to consider whether changes to reserve and/or capital metrics are necessary in light of the new scenarios. To facilitate the implementation of the new economic scenario generator, the GOES (E/A) Subgroup requests that the Variable Annuities Capital and Reserve (E/A) Subgroup:

1. Consider changes to the capital metric for the C3 Phase II calculation, if necessary, and,
2. Coordinate with the Life Risk-Based Capital (E) Working Group on any changes to the C3 Phase II metric and any related changes to the Life Risk-Based Capital Blanks and Instructions.

The GOES (E/A) Subgroup appreciates the Variable Annuities Capital and Reserve (E/A) Subgroup's assistance on this issue and looks forward to the response.

Washington, DC 444 North Capitol Street NW, Suite 700, Washington, DC 20001-1509 p | 202 471 3990 f | 816 460 7493
Kansas City 1100 Walnut Street NW, Suite 1500, Kansas City, MO 64106-2197 p | 816 842 3600 f | 816 783 8175
New York One New York Plaza, Suite 4210, New York, NY 20004 p | 212 398 9000 f | 212 382 4207
www.naic.org

MEMORANDUM

TO: Philip Barlow, Chair, Life Risk-Based Capital (E) Working Group
Ben Slutsker, Vice Chair, Life Risk-Based Capital (E) Working Group

FROM: Mike Yanacheak, Chair, Generator of Economic Scenarios (GOES) (E/A) Subgroup
Peter Weber, Vice Chair, GOES (E/A) Subgroup

RE: GOES Amendments to Life RBC Blanks and Instructions

DATE: February 12, 2025

The GOES (E/A) Subgroup has been working to implement a new economic scenario generator for use in statutory reserve and capital calculations for life insurance and annuities. It is planned that the new economic scenario generator will be effective for C3 Phase I and C3 Phase II for year-end 2026. To facilitate the implementation of the new economic scenario generator, the GOES (E/A) Subgroup requests that the Life Risk-Based Capital (E) Working Group:

1. Implement the necessary changes to the Life Risk-Based Capital Blanks and Instructions,
2. Coordinate with the Variable Annuities Capital and Reserve (E/A) Subgroup on recommended changes to the C3 Phase II calculation,
3. Consider changes to the required number of scenarios for the C3 Phase I calculation, if necessary, and,
4. Consider changes to the capital metric for the C3 Phase I calculation, if necessary.

The Subgroup appreciates the Working Group's assistance on this issue and looks forward to the response.

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Kansas City 1100 Walnut Street NW, Suite 1500, Kansas City, MO 64106-2197 p | 816 842 3600 f | 816 783 8175
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Draft: 3/13/25

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
February 12, 2025

The GOES (E/A) Subgroup of Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Feb. 12, 2025. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Philip Barlow (DC); Scott Shover (IN); Ben Slutsker (MN); Seong-min Eom (NJ); William B. Carmello (NY); and Rachel Hemphill (TX).

1. Discussed Revised Equity Calibration

Scott O'Neal (NAIC) presented the equity calibration presentation (Attachment Twenty-Seven-A), focusing on the revised equity scenarios and Sharpe ratio methodology for aligning risk-reward across equity indices. Connie Tang (Retired) inquired whether the scenarios and their accompanying model parameters would be made publicly available. Daniel Finn (Conning) responded that these materials would be posted once the Subgroup reached an agreement on the methodology.

Brian Bayerle (American Council of Life Insurers—ACLI) expressed his overall comfort with the Conning Sharpe ratio methodology but sought clarification on whether the differences in excess returns under the two Sharpe ratio methodologies being considered were attributable to the different risk-free rates themselves or changes in equity calibration. Finn clarified that the discrepancies were due to the different risk rates applied.

Yanacheak asked the Subgroup if there were any objections to proceeding with the Conning method. No concerns or objections were raised.

2. Discussed APF 2025-04

O'Neal provided an overview of amendment proposal form (APF) 2025-04 to implement the GOES in the *Valuation Manual*. Hemphill commented on VM-20, Requirements for Principle-Based Reserves for Life Products, Section 6.A.2.a.i, noting that passing or failing the Stochastic Exclusion Ratio Test (SERT) could become more volatile depending on the starting environment. Hemphill suggested expanding the SERT certification method to address situations where a company that had passed in prior years might fail in the current year. Additionally, Hemphill addressed VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, Section 3.D.10.c, proposing edits to allow for raising the SERT threshold and discussing the importance of reasonableness beyond merely passing or failing the threshold. Hemphill highlighted that changes to VM-21, Requirements for Principle-Based Reserves for Variable Annuities, Section 8.F, were aimed at aligning VM-20 and VM-21.

Simon Gervais (Oliver Wyman) sought confirmation on whether the use of proprietary generators, subject to regulatory approval, was being phased out for VM-21. Hemphill clarified that proprietary generators are not being discontinued and added that alternative generators could be used to produce scenarios, provided there is no material reduction in total asset requirement (TAR).

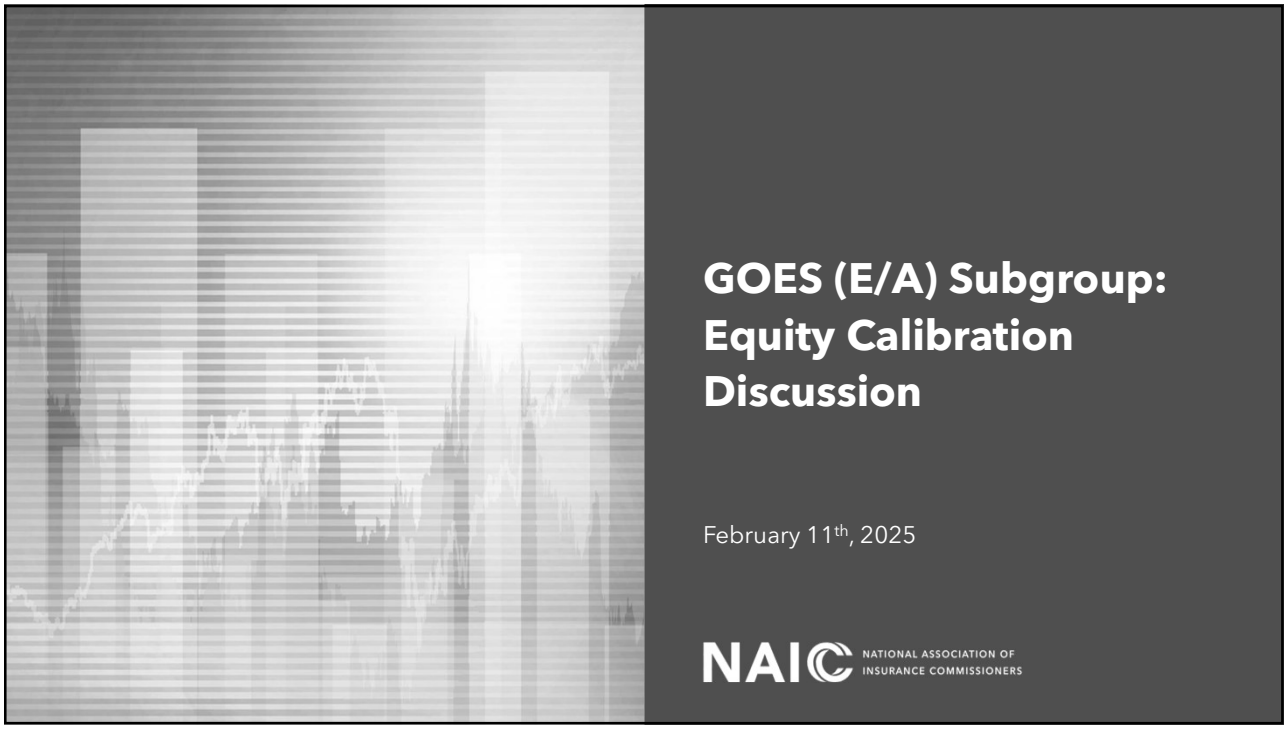
Patrick Reeder (Everlake) requested clarification on the adoption and implementation date. Yanacheak confirmed the effective date is planned for Jan. 1, 2026.

Lastly, Tang commented on the technical discussion regarding the mean revision parameter, a key feature of the old model that is absent in the current model. She suggested that the *Valuation Manual* should address this by

removing some of the technical background model details but making this information publicly accessible through links to ensure consistency in the level of detail provided.

Having no further business, the GOES (E/A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/GOES SG Calls/02 12/Feb 12 Minutes.docx



1

Agenda

1. Discuss Revised Equity Scenarios
2. Discuss Sharpe-Ratio Methodology for Aligning Risk-Reward Across Equity Indices

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

2

Revised Equity Scenarios

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

3

2024 Field Test Equity GWFs vs. Acceptance Criteria

	Targets						Simulated						Ratio					
Percentiles	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.49	0.21	0.14	0.08	0.17	0.26	1.08	0.87	0.64	0.29	0.57	0.57
1	0.70	0.58	0.60	0.79	1.15	2.82	0.70	0.55	0.53	0.63	0.94	2.17	1.00	0.95	0.88	0.79	0.82	0.77
5	0.82	0.80	0.91	1.36	2.20	6.38	0.82	0.79	0.88	1.29	2.03	5.47	1.00	1.00	0.96	0.95	0.92	0.86
10	0.88	0.93	1.12	1.81	3.08	9.78	0.88	0.92	1.11	1.74	2.93	8.81	1.00	0.99	0.99	0.96	0.95	0.90
15	0.92	1.02	1.28	2.18	3.84	12.94	0.93	1.02	1.28	2.10	3.73	11.91	1.00	1.00	1.00	0.96	0.97	0.92
25	0.99	1.18	1.54	2.81	5.26	19.23	0.99	1.18	1.55	2.80	5.17	18.42	1.00	1.01	1.01	1.00	0.98	0.96
30	1.01	1.24	1.66	3.12	6.01	22.79	1.01	1.25	1.67	3.13	5.89	22.02	1.00	1.00	1.00	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.10	1.49	2.17	4.48	9.28	39.64	1.01	1.01	1.01	1.00	1.01	0.99
70	1.17	1.74	2.71	6.30	14.12	68.89	1.18	1.76	2.75	6.36	14.09	69.20	1.01	1.01	1.02	1.01	1.00	1.00
75	1.19	1.82	2.89	6.93	15.88	80.22	1.20	1.83	2.92	6.96	15.89	80.89	1.01	1.01	1.01	1.00	1.00	1.01
85	1.25	2.02	3.36	8.69	21.06	115.31	1.26	2.03	3.40	8.62	21.02	115.56	1.01	1.01	1.01	0.99	1.00	1.00
90	1.28	2.15	3.71	10.09	25.20	147.92	1.30	2.17	3.76	9.97	25.08	145.91	1.01	1.01	1.01	0.99	1.00	0.99
95	1.34	2.37	4.30	12.33	33.19	210.72	1.36	2.39	4.38	12.30	32.53	211.90	1.01	1.01	1.02	1.00	0.98	1.01
99	1.45	2.82	5.64	18.18	53.74	397.23	1.47	2.83	5.68	17.53	50.56	394.09	1.01	1.00	1.01	0.96	0.94	0.99
100	1.76	4.20	8.98	42.03	140.72	1676.94	1.82	4.29	9.32	38.28	120.07	2292.44	1.03	1.02	1.04	0.91	0.85	1.37

The Large Capitalization (S&P 500) equity fund gross wealth factors (GWFs) are largely aligned with the targets across the bulk of the percentile GWF distribution over the projected durations. The first percentile does show some differences, with lower returns over time in the latest equity calibration compared to the targets.

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Revised Equity GWFs vs. Acceptance Criteria

	Targets					Simulated					Ratio				
Percentiles	1	5	10	20	30	1	5	10	20	30	1	5	10	20	30
0	0.46	0.25	0.22	0.25	0.29	0.50	0.23	0.17	0.09	0.17	1.08	0.92	0.76	0.37	0.57
1	0.70	0.58	0.60	0.79	1.15	0.71	0.59	0.58	0.73	1.12	1.02	1.01	0.97	0.93	0.97
5	0.82	0.80	0.91	1.36	2.20	0.83	0.82	0.93	1.40	2.22	1.01	1.02	1.02	1.03	1.01
10	0.88	0.93	1.12	1.81	3.08	0.89	0.94	1.16	1.87	3.20	1.01	1.01	1.03	1.03	1.04
25	0.99	1.18	1.54	2.81	5.26	0.99	1.19	1.58	2.92	5.45	1.00	1.01	1.03	1.04	1.04
50	1.09	1.48	2.15	4.47	9.23	1.10	1.50	2.16	4.50	9.37	1.01	1.01	1.01	1.01	1.02
75	1.19	1.82	2.89	6.93	15.88	1.20	1.82	2.88	6.78	15.68	1.01	1.00	1.00	0.98	0.99
85	1.25	2.02	3.36	8.69	21.06	1.29	2.14	3.67	9.59	23.92	1.03	1.06	1.09	1.10	1.14
90	1.28	2.15	3.71	10.09	25.20	1.35	2.37	4.25	11.72	30.79	1.06	1.10	1.15	1.16	1.22
99	1.45	2.82	5.64	18.18	53.74	1.46	2.83	5.66	17.28	47.69	1.01	1.00	1.00	0.95	0.89
100	1.76	4.20	8.98	42.03	140.72	1.81	4.14	9.45	34.11	136.91	1.03	0.99	1.05	0.81	0.97

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Sharpe-Ratio Methodology for Aligning Risk-Reward Across Equity Indices

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Sharpe Ratios by Index

Targeting Criteria E1.T (excerpt): Sharpe ratios for equities other than S&P should be within 5% of S&P Sharpe ratio.

Sharpe Ratios by Index using Conning Methodology:

	Actual		Excess			
Index	Mean	St Dev	Mean	St Dev	Sharpe Ratio	Pass?
Large	8.69%	15.61%	4.66%	16.05%	29.02%	N/A
Mid	9.24%	17.26%	5.21%	17.67%	29.49%	TRUE
Small	9.53%	18.73%	5.49%	19.11%	28.75%	TRUE
US Aggressive	11.18%	23.47%	7.15%	23.76%	30.09%	TRUE
International Diversified	9.32%	18.21%	5.28%	18.59%	28.41%	TRUE
Aggressive Foreign	12.14%	27.79%	8.11%	28.04%	28.91%	TRUE

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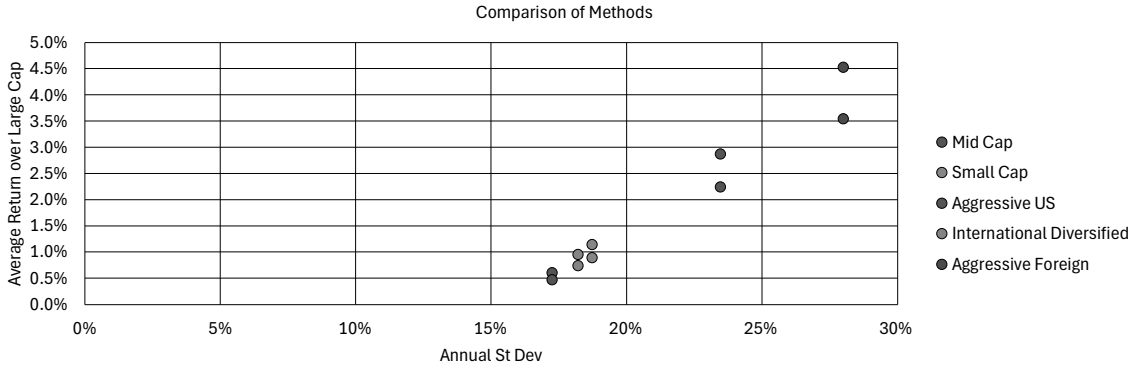
Comparison of Conning vs. 3% risk-free rate Sharpe-Ratio Methodology

For each index, using a 3% risk-free rate in the determination of the Sharpe-ratio rather than the actual, average steady state risk-free rate results in a higher excess return over the Large Cap index.



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Draft: 3/13/25

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
January 29, 2025

The GOES (E/A) Subgroup of Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Jan. 29, 2025. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Philip Barlow (DC); Scott Shover (IN); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill (TX); and Craig Chupp (VA).

1. Heard a Presentation on Revised Treasury Scenarios

Scott O'Neal (NAIC) walked through a presentation (Attachment Twenty-Eight-A) highlighting statistics from the latest GOES Treasury calibration, which was revised to include an alternative initial yield curve fitting methodology and the dynamic generalized fractional floor. Brian Bayerle (American Council of Life Insurers—ACLI) requested model parameters and scenario statistics from varying starting economic environments, which O'Neal responded could be provided.

2. Discussed a Model Office Testing Plan

O'Neal discussed the plan to test the revised scenarios using the Valuation Manual (VM)-20, Requirements for Principle-Based Reserves for Life Insurance Products, and VM-21, Requirements for Principle-Based Reserves for Variable Annuities model office. O'Neal stated that three separate scenario sets layering in each GOES model change would be model office tested to assess the impact of each change. Randall McCumber (Lincoln Financial Group) asked whether any refinements could be made to the model office investment strategy. O'Neal replied that model office changes could be considered, balancing the budget and project timeline. Connie Tang (Retired) asked whether there were any plans to test impacts on the VM-20 deterministic reserve (DR). O'Neal replied that the ACLI plans to propose a revised DR scenario methodology and that model office testing would follow the proposal.

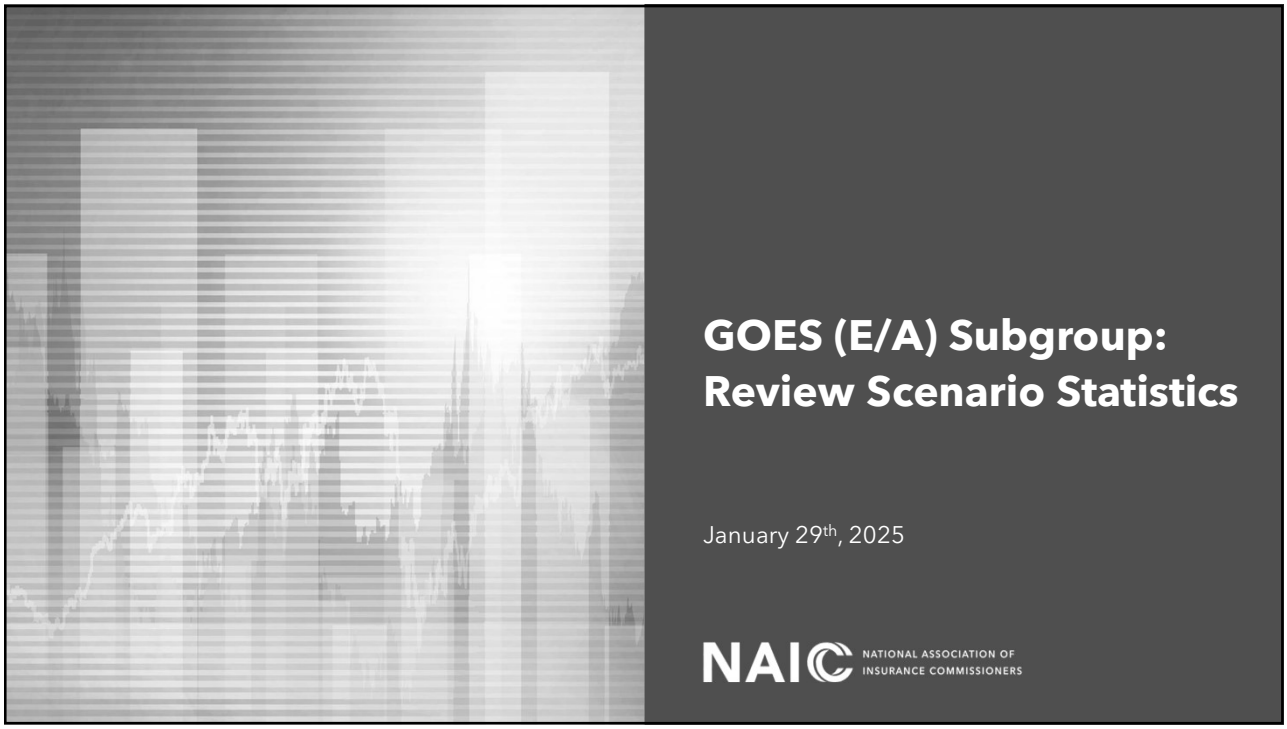
3. Discussed the Formation of a GOES Model Governance Drafting Group

Yanacheak noted the large volume of comments that the Subgroup had received on the exposure of a draft GOES model governance framework and stated that a drafting group would be formed to review the comments.

4. Discussed the Sharpe Ratio Methodology for Aligning Risk-Reward Across GOES Equity Indices

O'Neal said there are currently two proposals for determining the Sharpe ratio to align the risk-reward tradeoffs across the GOES equity funds. Daniel Finn (Conning) described the methodology used by Conning, which took actual Treasury data in the steady state to develop an average risk-free rate. Iouri Karpov (Prudential Financial) described the ACLI's recommended methodology of using a 3% risk-free rate based on historical data and somewhat stylized. Karpov asked for an example of how the different approaches would impact the risk-reward across the equity funds. Finn responded that he could provide an example.

Having no further business, the GOES (E/A) Subgroup adjourned.


GOES (E/A) Subgroup:
Review Scenario Statistics
January 29th, 2025
NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

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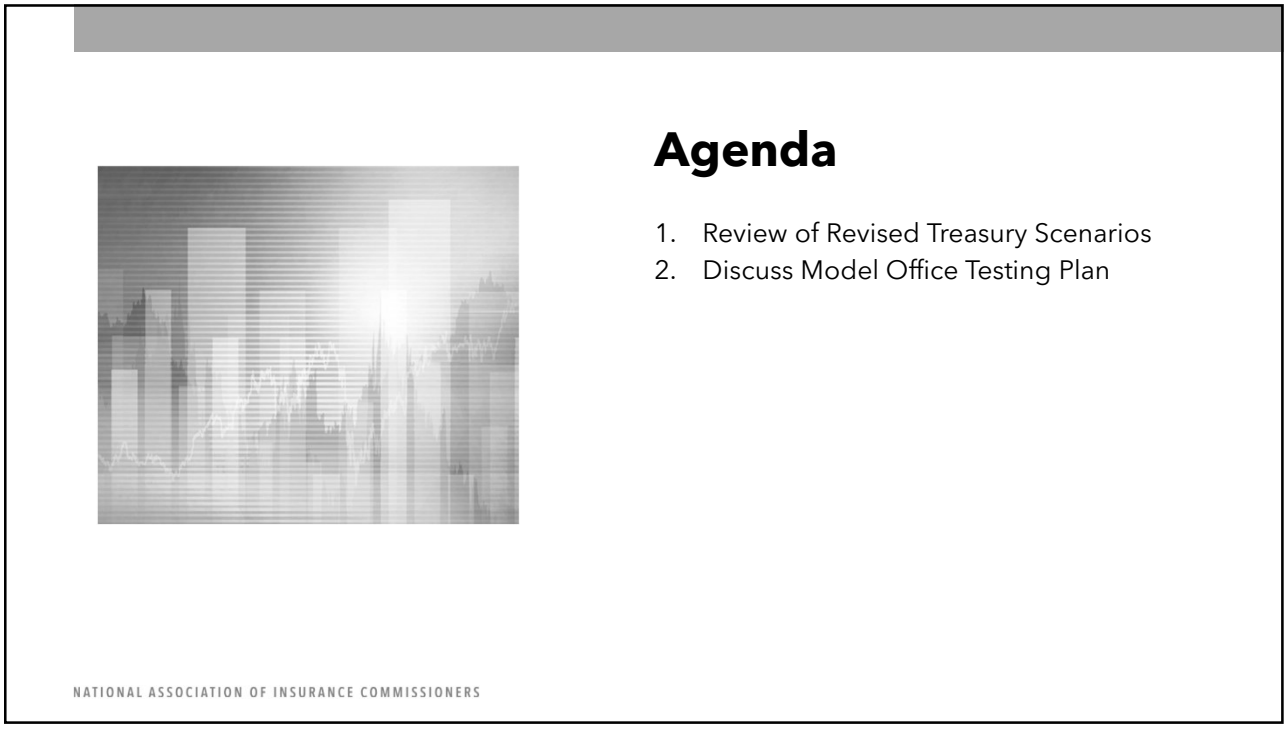
Agenda
1. Review of Revised Treasury Scenarios
2. Discuss Model Office Testing Plan
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Review of Treasury Scenarios vs. Acceptance Criteria

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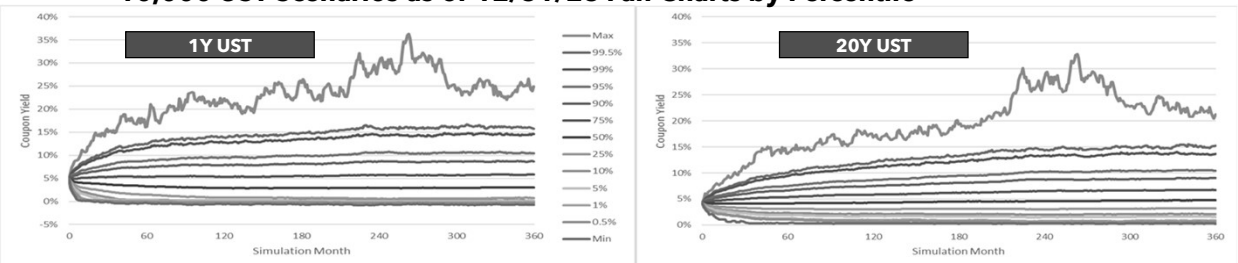
Item	Category	Criteria
T1.T	Prevalence of High Rates, Upper Bound on Treasury Rates	a) The scenario set should reasonably reflect history, with some allowance for more extreme high and low interest rate environments b) Upper Bound: i. [18%] is >= [99.5%]-tile on the 1Y yield fan chart, and no more than [0.5%] of scenarios have 1Y yields that go above [18%] in the first 30 years ii. [17%] is >= [99.5%]-tile on the 20Y yield fan chart, and no more than [0.5%] of scenarios have 20Y yields that go above [17%] in the first 30 years

10,000 UST Scenarios as of 12/31/23 Fan Charts by Percentile



T1.Tb

	>X%, any of 1st 30 Years	X% >= 99.5th Percentile
1Y	**2.39%**	**16.65%**
20Y	**1.49%**	**15.51%**

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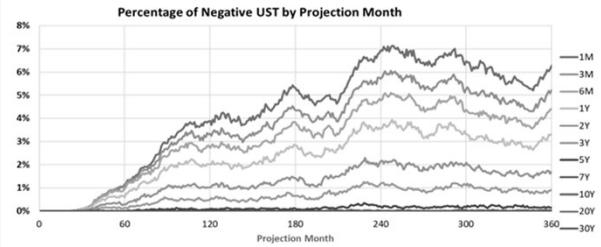
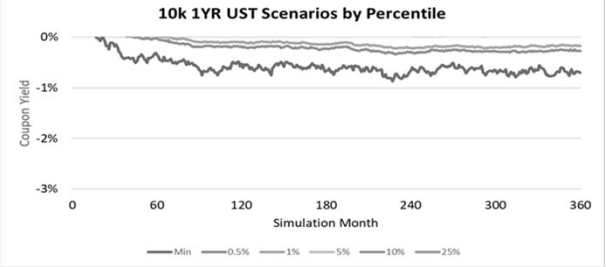
Item	Category	Criteria	Criteria Met?
T2.T	Lower Bound on Negative Interest Rates	Apply the following guidance for negative rates: a) Maturities less than 20 years could experience negative interest rates b) Interest rates may remain negative for multi-year time periods c) 1Y rates should generally not be lower than -1.0% d) 20Y rates should generally not be lower than 0.0%	a) Yes b) Yes c) Yes d) Yes

Negative UST Rates, 12/31/23 Scenario Set





360 month minimum	1M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y	30Y
12/31/2023	-1.1%	-1.1%	-1.0%	-0.9%	-0.7%	-0.5%	-0.3%	-0.1%	0.0%	0.2%	0.4%

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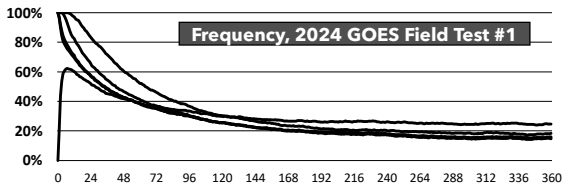
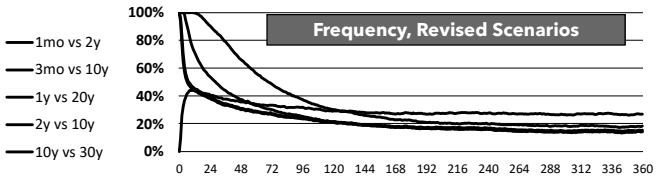
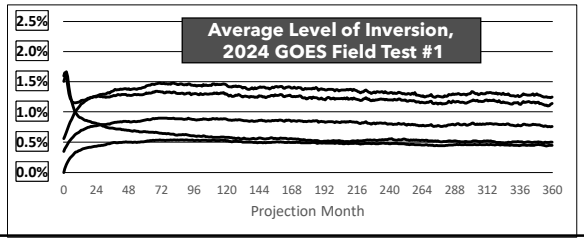
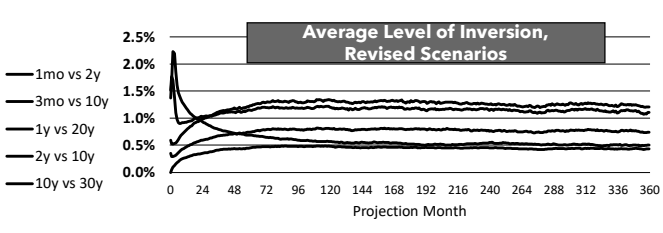
Item	Category	Criteria
T3.T	Initial Yield Curve Fit, Yield Curve Shapes in Projection, and Steady State Yield Curve Shape	a) Review initial actual vs. fitted spot curve differences for a sampling of 5 dates representing different shapes and rate levels for the entire curve and review fitted curves qualitatively to confirm they stylistically mimic the different actual yield curve shapes **b) The frequency of different yield curve shapes in early durations should be reasonable considering the shape of the starting yield curve (e.g. a flatter yield curve leads to more inversions).** c) The steady state curve has normal shape (not inverted for short maturities, longer vs shorter maturities, or between long maturities)









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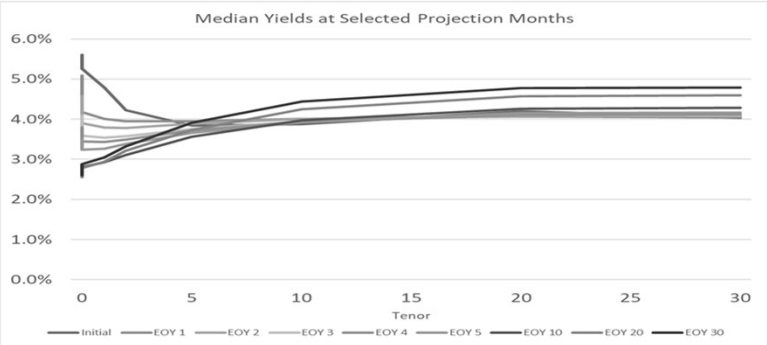
Item	Category	Criteria
T3.T	Initial Yield Curve Fit, Yield Curve Shapes in Projection, and Steady State Yield Curve Shape	a) Review initial actual vs. fitted spot curve differences for a sampling of 5 dates representing different shapes and rate levels for the entire curve and review fitted curves qualitatively to confirm they stylistically mimic the different actual yield curve shapes b) The frequency of different yield curve shapes in early durations should be reasonable considering the shape of the starting yield curve (e.g. a flatter yield curve leads to more inversions). **c) The steady state curve has normal shape (not inverted for short maturities, longer vs shorter maturities, or between long maturities)**

Median Yields at Selected Projection Months, 12/31/23 Scenario Set



From the graph on the left, you can see that the median yield curve evolves from the inverted starting conditions to the normal yield curve that is targeted in the steady state.

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Model Office Testing Plan

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Model Office Testing Plan

GOES Changes

- Initial Yield Curve Fitting Methodology
- Dynamic Generalized Fractional Floor (DGFF)
- Revised Equity Calibration with Reduced Left-Tail Severity

Scenario Sets

- Conning to create three separate scenario sets that layer on each change
  - a) Initial Yield Curve Fitting
  - b) a and DGFF
  - c) b and Revised Equity Calibration

Model Office Testing Plan

- Utilize Variable Annuity and ULSG model offices from previous analysis
  - VA model would be left unchanged and use same 3 cohorts from previous analysis, ULSG model would have more refined starting assets and reinvestment strategy
- Create attribution analysis using a, b, and c above (a and b only for ULSG)
- All scenario sets will be as of 12/31/23 to compare to set #1 from the 2024 field test

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Draft: 3/13/25

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
December 19, 2024

The GOES (E/A) Subgroup of the Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Dec. 19, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Philip Barlow (DC); Ben Slutsker (MN); Seong-min Eom (NJ); William B. Carmello (NY); Rachel Hemphill (TX); and Craig Chupp (VA).

1. Discussed Equity Calibration Alternatives

Scott O'Neal (NAIC) and Daniel Finn (Conning) walked through a presentation (Attachment Twenty-Nine-A) that discussed feedback from the 2024 GOES field test on the equity calibration, two revised equity calibration options prepared by Conning, and an alternative proposal from the American Council of Life Insurers (ACLI). Brian Bayerle (ACLI) noted that jumps were a large contributor to overall variance in the Conning equity model and asked whether that could be easily changed. Finn replied that it would not be simple, as the level of jumps also affected the tail correlation between the equity indices. Bayerle then requested additional documentation on the calibration process. Finn stated it could be provided.

Connie Tang (Retired) asked whether the calibration for the other equity indices had been built out. Finn replied that he was waiting for confirmation on the large capitalization fund calibration.

Yanacheak, Weber, Eom, Slutsker, and Chou stated their support for Conning-determined equity calibration option No. 2, which had a closer alignment in the lower tail gross wealth factor (GWF) percentiles to the acceptance criteria. Hemphill noted a slight preference for Conning option No. 1 but said she could support either.

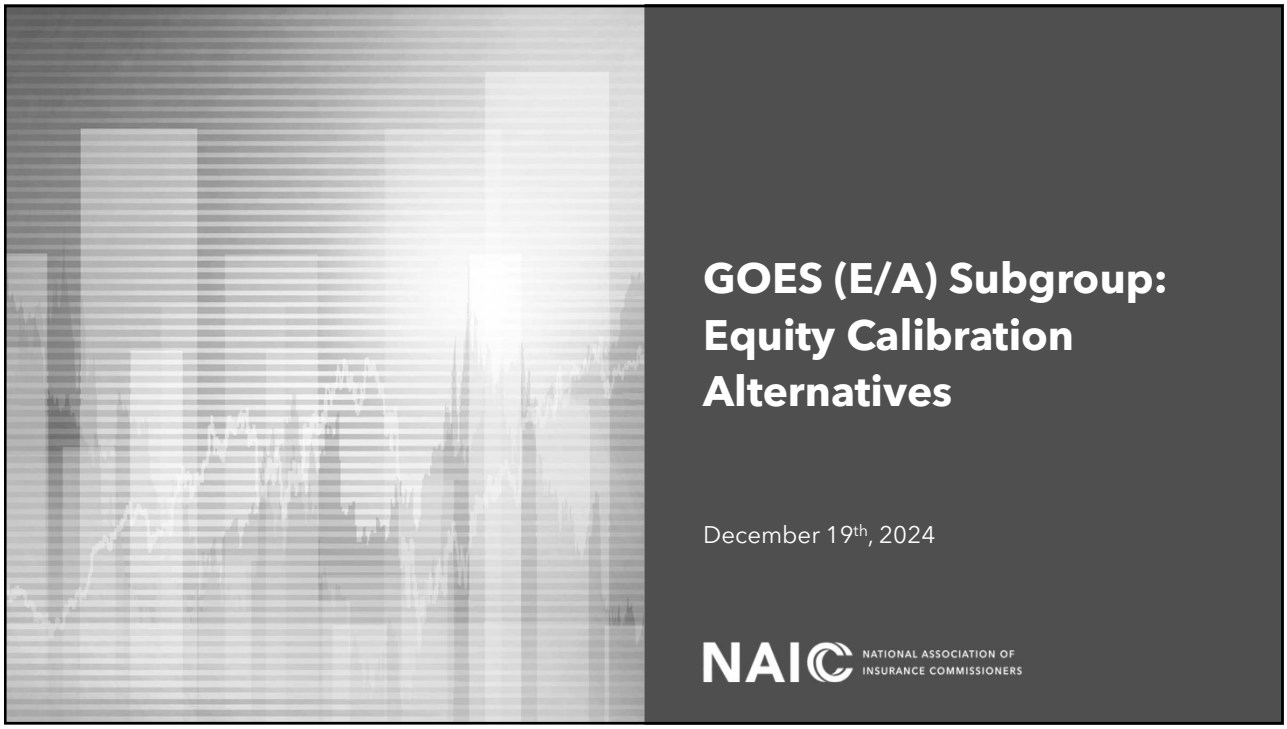
Weber made a motion, seconded by Chang, to direct Conning to fully build out the equity calibration for all of the indices according to option No. 2 calibration. The motion passed unanimously.

2. Discussed Initial Treasury Yield Curve Fitting Methodology

Yanacheak noted that the group had previously discussed the initial yield curve fitting methodology in May but had not decided between the option currently used in the scenarios and an alternative proposal from the ACLI. Yanacheak summarized the ACLI's proposal as emphasizing fitting the longer-maturity end of the U.S. Department of the Treasury (Treasury) yield curve. O'Neal noted regulators' concern during the previous discussion that greater emphasis on fitting the longer-maturity yields could cause unintended consequences from a poorer fit for the shorter maturities. Bayerle noted that the shorter end of the yield curve reverts faster to long-term averages in the GOES Treasury model, so it is less of an issue if there is a poorer fit for the shorter maturities.

Eom and Chupp noted support for the ACLI's alternative initial yield curve fitting methodology. Hal Pedersen (American Academy of Actuaries—Academy) said that the Academy felt strongly that the ACLI's approach was preferable. Yanacheak asked if any Subgroup members objected to moving forward with the ACLI's initial yield curve fitting methodology. There were no objections.

Having no further business, the GOES (E/A) Subgroup adjourned.



1

Equity Calibration Alternatives

Background:

- After the conclusion of the 2024 GOES field test, some participants and interested parties commented that the gross wealth factors (GWFs) in the lower tail and later projection years were too extreme and deviated from the acceptance criteria. The ACLI proposed an alternative calibration of the Conning equity model.
- This issue was further discussed at the 2024 NAIC Fall National Meeting, and regulators directed Conning to tweak the 2024 GOES field test calibration to bring up the lower tail GWFs.
- In response, Conning has produced two alternative calibrations that increase the lower tail GWFs in the later projection years

Ratio of 1st Percentile Large Cap Equity Simulated GWFs to Acceptance Criteria by Calibration and Projection

1st Percentile Comparison	1 Years	5 Years	10 Years	20 Years	30 Years	50 Years
2024 GOES Field Test	100%	95%	88%	79%	82%	77%
Revised Conning #1	97%	91%	90%	93%	95%	91%
Revised Conning #2	97%	93%	94%	96%	100%	96%
ACLI	100%	99%	97%	96%	100%	97%

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2024 GOES Field Test: Large Cap Equity Scenarios vs Acceptance Criteria

	Targets						Simulated						Ratio					
Percentiles	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.49	0.21	0.14	0.08	0.17	0.26	1.08	0.87	0.64	0.29	0.57	0.57
1	0.70	0.58	0.60	0.79	1.15	2.82	0.70	0.55	0.53	0.63	0.94	2.17	1.00	0.95	0.88	0.79	0.82	0.77
5	0.82	0.80	0.91	1.36	2.20	6.38	0.82	0.79	0.88	1.29	2.03	5.47	1.00	1.00	0.96	0.95	0.92	0.86
10	0.88	0.93	1.12	1.81	3.08	9.78	0.88	0.92	1.11	1.74	2.93	8.81	1.00	0.99	0.99	0.96	0.95	0.90
15	0.92	1.02	1.28	2.18	3.84	12.94	0.93	1.02	1.28	2.10	3.73	11.91	1.00	1.00	1.00	0.96	0.97	0.92
25	0.99	1.18	1.54	2.81	5.26	19.23	0.99	1.18	1.55	2.80	5.17	18.42	1.00	1.01	1.01	1.00	0.98	0.96
30	1.01	1.24	1.66	3.12	6.01	22.79	1.01	1.25	1.67	3.13	5.89	22.02	1.00	1.00	1.00	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.10	1.49	2.17	4.48	9.28	39.64	1.01	1.01	1.01	1.00	1.01	0.99
70	1.17	1.74	2.71	6.30	14.12	68.89	1.18	1.76	2.75	6.36	14.09	69.20	1.01	1.01	1.02	1.01	1.00	1.00
75	1.19	1.82	2.89	6.93	15.88	80.22	1.20	1.83	2.92	6.96	15.89	80.89	1.01	1.01	1.01	1.00	1.00	1.01
85	1.25	2.02	3.36	8.69	21.06	115.31	1.26	2.03	3.40	8.62	21.02	115.56	1.01	1.01	1.01	0.99	1.00	1.00
90	1.28	2.15	3.71	10.09	25.20	147.92	1.30	2.17	3.76	9.97	25.08	145.91	1.01	1.01	1.01	0.99	1.00	0.99
95	1.34	2.37	4.30	12.33	33.19	210.72	1.36	2.39	4.38	12.30	32.53	211.90	1.01	1.01	1.02	1.00	0.98	1.01
99	1.45	2.82	5.64	18.18	53.74	397.23	1.47	2.83	5.68	17.53	50.56	394.09	1.01	1.00	1.01	0.96	0.94	0.99
100	1.76	4.20	8.98	42.03	140.72	1676.94	1.82	4.29	9.32	38.28	120.07	2292.44	1.03	1.02	1.04	0.91	0.85	1.37

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Conning Alternative #1: Large Cap Equity Scenarios vs Acceptance Criteria

	Targets						Simulated						Ratio					
Percentiles	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.47	0.15	0.16	0.22	0.24	0.32	1.02	0.61	0.74	0.90	0.84	0.69
1	0.7	0.58	0.6	0.79	1.15	2.82	0.68	0.52	0.54	0.74	1.09	2.57	0.97	0.90	0.90	0.93	0.95	0.91
5	0.82	0.8	0.91	1.36	2.2	6.38	0.81	0.78	0.89	1.33	2.1	6.09	0.98	0.98	0.98	0.98	0.95	0.95
10	0.88	0.93	1.12	1.81	3.08	9.78	0.87	0.92	1.1	1.78	2.96	9.44	0.99	0.99	0.98	0.98	0.96	0.96
15	0.92	1.02	1.28	2.18	3.84	12.94	0.91	1.02	1.27	2.14	3.76	12.41	0.99	1.00	0.99	0.98	0.98	0.96
25	0.99	1.18	1.54	2.81	5.26	19.23	0.98	1.17	1.54	2.8	5.21	18.85	0.99	0.99	1.00	1.00	0.99	0.98
30	1.01	1.24	1.66	3.12	6.01	22.79	1	1.24	1.67	3.13	5.91	22.18	0.99	1.00	1.01	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.09	1.49	2.15	4.46	9.32	38.93	1.00	1.01	1.00	1.00	1.01	0.97
70	1.17	1.74	2.71	6.3	14.12	68.89	1.17	1.76	2.71	6.22	14.04	68.43	1.00	1.01	1.00	0.99	0.99	0.99
75	1.19	1.82	2.89	6.93	15.88	80.22	1.2	1.83	2.88	6.79	15.74	78.94	1.01	1.01	1.00	0.98	0.99	0.98
85	1.25	2.02	3.36	8.69	21.06	115.3	1.25	2.03	3.34	8.44	20.62	113	1.00	1.00	0.99	0.97	0.98	0.98
90	1.28	2.15	3.71	10.09	25.2	147.9	1.29	2.17	3.67	9.73	24.6	145.6	1.01	1.01	0.99	0.96	0.98	0.98
95	1.34	2.37	4.3	12.33	33.19	210.7	1.34	2.39	4.25	12	31.67	199.6	1.00	1.01	0.99	0.97	0.95	0.95
99	1.45	2.82	5.64	18.18	53.74	397.2	1.46	2.9	5.57	16.75	50	370.2	1.01	1.03	0.99	0.92	0.93	0.93
100	1.76	4.2	8.98	42.03	140.7	1677	2.01	4.83	11.57	46.2	125.5	1028	1.14	1.15	1.29	1.10	0.89	0.61

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS 4

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Conning Alternative #2: Large Cap Equity Scenarios vs Acceptance Criteria

	Targets						Simulated						Ratio					
Percentiles	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.469	0.157	0.168	0.27	0.275	0.372	1.02	0.63	0.76	1.08	0.95	0.81
1	0.7	0.58	0.6	0.79	1.15	2.82	0.683	0.538	0.567	0.761	1.142	2.718	0.98	0.93	0.95	0.96	0.99	0.96
5	0.82	0.8	0.91	1.36	2.2	6.38	0.808	0.793	0.91	1.369	2.176	6.348	0.98	0.99	1.00	1.01	0.99	0.99
10	0.88	0.93	1.12	1.81	3.08	9.78	0.873	0.931	1.115	1.81	3.042	9.796	0.99	1.00	1.00	1.00	0.99	1.00
15	0.92	1.02	1.28	2.18	3.84	12.94	0.915	1.028	1.283	2.164	3.856	12.65	0.99	1.01	1.00	0.99	1.00	0.98
25	0.99	1.18	1.54	2.81	5.26	19.23	0.978	1.177	1.554	2.82	5.241	19.01	0.99	1.00	1.01	1.00	1.00	0.99
30	1.01	1.24	1.66	3.12	6.01	22.79	1.005	1.246	1.675	3.144	5.951	22.37	0.99	1.00	1.01	1.01	0.99	0.98
50	1.09	1.48	2.15	4.47	9.23	39.98	1.095	1.488	2.137	4.454	9.26	38.67	1.00	1.01	0.99	1.00	1.00	0.97
70	1.17	1.74	2.71	6.3	14.12	68.89	1.174	1.75	2.691	6.181	13.9	67.21	1.00	1.01	0.99	0.98	0.98	0.98
75	1.19	1.82	2.89	6.93	15.88	80.22	1.2	1.826	2.866	6.722	15.51	77.26	1.01	1.00	0.99	0.97	0.98	0.96
85	1.25	2.02	3.36	8.69	21.06	115.3	1.251	2.023	3.323	8.345	20.41	109.5	1.00	1.00	0.99	0.96	0.97	0.95
90	1.28	2.15	3.71	10.09	25.2	147.9	1.29	2.166	3.657	9.58	24.15	142.4	1.01	1.01	0.99	0.95	0.96	0.96
95	1.34	2.37	4.3	12.33	33.19	210.7	1.343	2.385	4.24	11.95	31.28	196.8	1.00	1.01	0.99	0.97	0.94	0.93
99	1.45	2.82	5.64	18.18	53.74	397.2	1.461	2.904	5.525	16.38	49.67	368.7	1.01	1.03	0.98	0.90	0.92	0.93
100	1.76	4.2	8.98	42.03	140.7	1677	2.011	4.994	11.91	47.91	118.2	979	1.14	1.19	1.33	1.14	0.84	0.58

ACLI Proposal: Large Cap Equity Scenarios vs Acceptance Criteria

	ACLI Large Cap							AAA Criteria (Avg. GWF)							ACLI / AAA Criteria						
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.17	0.16	0.19	0.21	0.54	**Min**	0.46	0.25	0.22	0.25	0.29	0.46	**Min**	1.07	0.70	0.72	0.73	0.72	1.19
0.5%	0.67	0.51	0.48	0.62	0.89	2.13	**0.5%**							**0.5%**						
1.0%	0.70	0.57	0.58	0.76	1.15	2.75	**1.0%**	0.70	0.58	0.60	0.79	1.15	2.82	**1.0%**	1.00	0.99	0.97	0.96	1.00	0.97
5.0%	0.82	0.78	0.90	1.36	2.23	6.17	**5.0%**	0.82	0.80	0.91	1.36	2.20	6.38	**5.0%**	1.00	0.99	0.98	1.00	1.01	0.97
10.0%	0.88	0.92	1.11	1.82	3.05	9.48	**10.0%**	0.88	0.93	1.12	1.81	3.08	9.78	**10.0%**	1.00	1.00	0.99	1.01	0.99	0.97
25.0%	0.98	1.17	1.54	2.81	5.11	18.81	**25.0%**	0.99	1.18	1.54	2.81	5.26	19.23	**25.0%**	1.00	1.00	1.00	1.00	0.97	0.98
50.0%	1.09	1.47	2.14	4.44	9.20	39.45	**50.0%**	1.09	1.48	2.15	4.47	9.23	39.98	**50.0%**	1.00	1.00	1.00	0.99	1.00	0.99
75.0%	1.19	1.82	2.89	6.92	15.79	79.76	**75.0%**	1.19	1.82	2.89	6.93	15.88	80.22	**75.0%**	1.00	1.00	1.00	1.00	0.99	0.99
90.0%	1.29	2.16	3.70	9.99	25.22	148.83	**90.0%**	1.28	2.15	3.71	10.09	25.20	147.92	**90.0%**	1.00	1.00	1.00	0.99	1.00	1.01
95.0%	1.34	2.40	4.33	12.50	33.40	209.78	**95.0%**	1.34	2.37	4.30	12.33	33.19	210.72	**95.0%**	1.00	1.01	1.00	1.01	1.01	1.00
99.0%	1.47	2.91	5.62	19.04	52.86	415.11	**99.0%**	1.45	2.82	5.64	18.18	53.74	397.23	**99.0%**	1.01	1.03	1.00	1.05	0.98	1.05
99.5%	1.51	3.12	6.26	22.26	66.31	512.63	**99.5%**							**99.5%**						
Max	1.83	4.70	10.85	43.13	168.19	1,514.65	**Max**	1.76	4.20	8.98	42.03	140.72	1,676.94	**Max**	1.04	1.12	1.21	1.03	1.20	0.90

Source: "ACLI Equity Calibration Proposal" LATF session of 2024 NAIC Fall National Meeting

Draft: 1/31/25

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
December 11, 2024

The GOES (E/A) Subgroup of Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Dec. 11, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Wanchin Chou (CT); Philip Barlow (DC); Scott Shover (IN); Ben Slutsker (MN); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill (TX); and Craig Chupp (VA).

1. Discussed Treasury Model Flooring Methodology

Brian Bayerle (American Council of Life Insurers—ACLI) walked through a presentation (Attachment Thirty-A) that proposed using a dynamic generalized fractional floor (DGFF) methodology to reduce the frequency and severity of negative U.S. Department of the Treasury (Treasury) rates in the GOES. Daniel Finn (Conning) then delivered a presentation (Attachment Thirty-B) on Conning's review of the ACLI's DGFF methodology. Hemphill pointed back to the acceptance criteria previously approved by the Subgroup that said that maturities less than 20 years could experience negative rates and stated that the 3% negative steady-state 1-year Treasury DGFF (3% DGFF) formulation was most appropriate considering that criterion. Weber agreed with Hemphill, noting that the original DGFF formulation removed too many negative Treasury rates from the GOES.

Slutsker noted that he supported the generalized fractional floor (GFF) methodology used in the 2024 GOES field test and cautioned that only including a limited amount of negative Treasury rates in the GOES may not be adequate considering demographic changes in the U.S. along with potential future changes to Federal Reserve Board (FRB) policy. Hemphill said that she appreciated Slutsker's concerns and that the governance program should help to identify emerging risks, such as more frequent negative Treasury rates, going forward. Barlow and Leung noted support for the 3% DGFF methodology. Eom noted a preference for a greater frequency of negative Treasury rates than provided by the 3% DGFF.

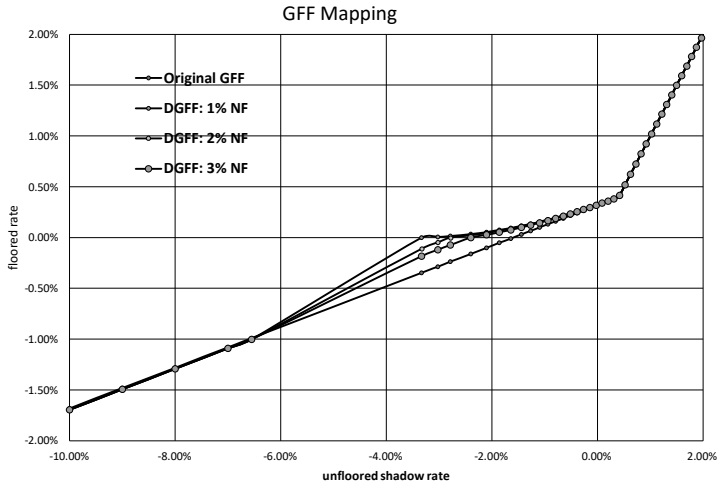
Hal Pedersen (American Academy of Actuaries—Academy) asked whether the 3% DGFF would require lower initial state variables compared to the GFF in low starting interest rate environments. Finn said yes and that this could lead to less variability in the earlier projection periods for the 3% DGFF. Hemphill asked whether the ACLI had performed testing in low-rate environments with the 3% DGFF. Iouri Karpov (Prudential Financial) said that the effect was minimal in the analysis that he performed.

Weber made a motion, seconded by Hemphill, to use the 3% DGFF in the GOES. The motion passed, with Carmello and Eom opposed.

Having no further business, the GOES (E/A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2025-1-Spring/GOES SG Calls/12 11/Dec 11 Minutes.docx

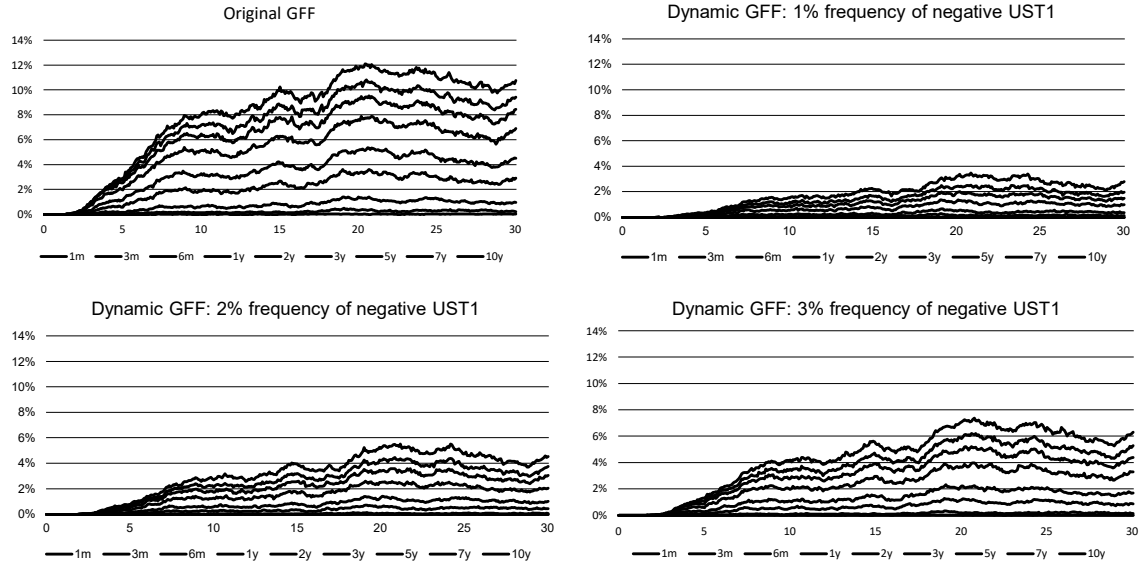
Dynamic GFF Alternatives: impact of flooring



- Original GFF maps unfloored rate of -1.6% to 0%, effectively targeting 6-7% frequency of negative UST1
- Dynamic GFF allows for targeting of any desired frequency of negative UST1 by adjusting the unfloored rate level that maps to 0%
  - 1% frequency: unfloored rate of -3.33%
  - 2% frequency: unfloored rate of -2.79%
  - 3% frequency: unfloored rate of -2.40%
- Resulting flooring gets closer to original GFF as the desired frequency of negative UST1 is increased.

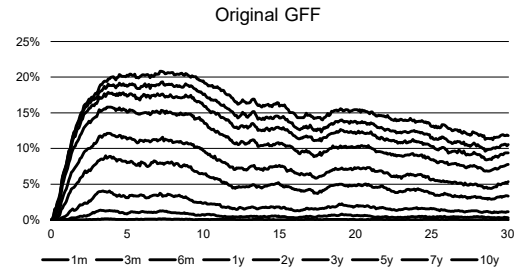
1

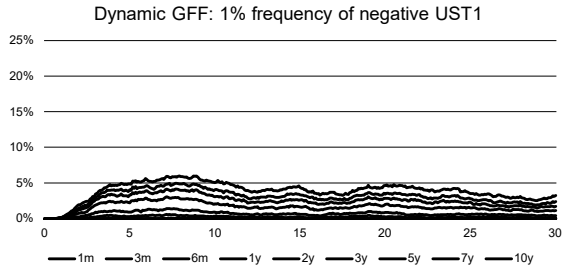
Baseline FT2 Scenarios

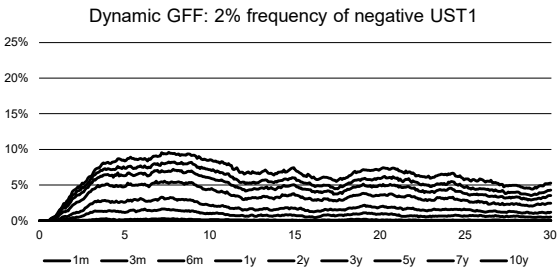


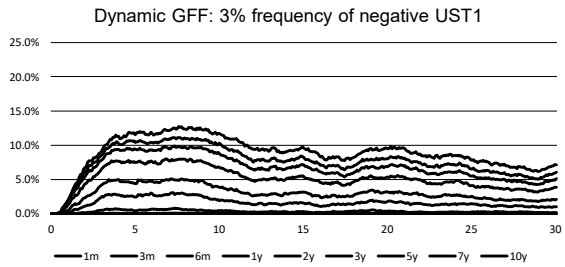
2

Low Rate FT2 Scenarios









3

Low Tail Distribution in Steady State (80-100yrs of the projection)

Original GFF

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.7%	-0.5%	-0.4%	-0.2%
0.5%	-0.6%	-0.6%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	0.1%	0.2%
1%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.3%
2%	-0.4%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%
3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.2%	0.3%	0.4%
4%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.6%
5%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.1%	0.3%	0.4%	0.7%
6%	-0.2%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.5%	1.1%
8%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.5%	0.9%	1.4%

Dynamic GFF: 2% frequency of negative UST1

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.6%	-0.3%	-0.1%	0.0%
0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.1%	0.2%
1%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%
2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%
3%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%
4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

Dynamic GFF: 1% frequency of negative UST1

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.6%	-0.3%	-0.1%	0.0%
0.5%	-0.4%	-0.3%	-0.2%	-0.2%	0.0%	0.0%	0.1%	0.1%	0.2%
1%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%
2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%
3%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%
4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

Dynamic GFF: 3% frequency of negative UST1

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.6%	-0.4%	-0.2%	0.0%
0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.2%
1%	-0.4%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%
2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.1%	0.1%	0.2%	0.3%
3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.4%
4%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

4

Low Tail Distribution in Steady State (80-100yrs of the projection)

FT2 Baseline Scenarios # of scenarios out of 10,000 where 1yr Rate turns negative in the first 360 months				
	GFF	Dynamic GFF 1%	Dynamic GFF 2%	Dynamic GFF 3%
negative rates are observed	4,807	1,405	2,356	3,087
at least 12 negative rates	3,127	586	1,153	1,724
at least 24 negative rates	2,357	355	729	1,146
at least 36 negative rates	1,787	224	473	786
at least 60 negative rates	1,063	67	231	396
at least 120 negative rates	254	5	23	56
at least 240 negative rates	7	-	-	-

Original GFF results in significant proportion of scenarios where 1yr rate turns negative for extended period of time:

- 48% of Baseline scenarios produce negative rates in the first 360 months of the projection
- 10% of Baseline scenarios produce 60+ months of negative rates in the first 360 months of the projection
- 24% of Low Rate scenarios produce 60+ months of negative rates in the first 360 months of the projection
- 7% of Low Rate scenarios produce 120+ months of negative rates in the first 360 months of the projection

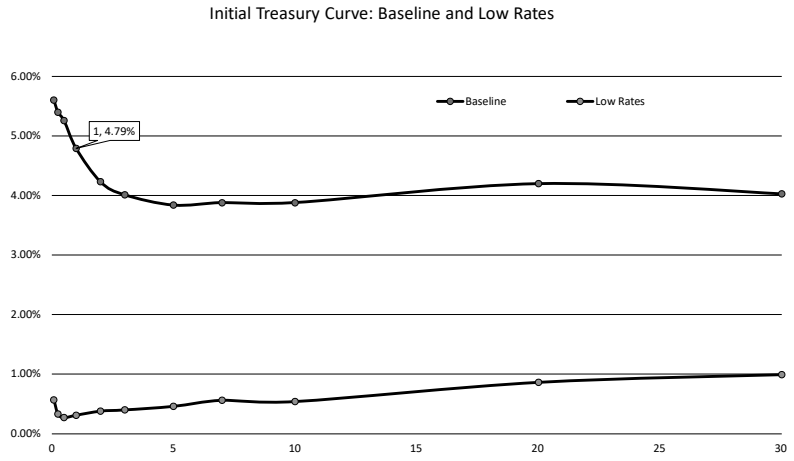
FT2 Low Rate Scenarios # of scenarios out of 10,000 where 1yr Rate turns negative in the first 360 months				
	GFF	Dynamic GFF 1%	Dynamic GFF 2%	Dynamic GFF 3%
negative rates are observed	7,526	2,941	4,390	5,496
at least 12 negative rates	5,619	1,411	2,511	3,459
at least 24 negative rates	4,514	835	1,711	2,494
at least 36 negative rates	3,698	512	1,186	1,887
at least 60 negative rates	2,459	218	568	1,006
at least 120 negative rates	784	21	90	210
at least 240 negative rates	30	-	-	3

Dynamic GFF targeting 1-3% of negative rates in the steady-state "cross-cut" distribution produces robust proportion of scenarios that exhibit negative rates. For instance, Dynamic GFF targeting 2% shows:

- 23% of Baseline scenarios and 44% of Low Rate scenarios with negative rates
- 2% of Baseline scenarios produce 60+ months of negative rates
- 6% of Low Rate scenarios produce 60+ months of negative rates, and ~1% of scenarios show 120+ months of negative rates

5

Initial UST Treasury Curves: FT2 Baseline and Low Rates



6

Tail Distribution of 1yr Spot Rate under FT2 GEMS Scenarios

percentile	Floored (GFF)	Unfloored
min	-0.99%	-6.55%
1%	-0.35%	-3.33%
2%	-0.24%	-2.79%
3%	-0.16%	-2.40%
4%	-0.10%	-2.11%
5%	-0.05%	-1.86%
6%	-0.01%	-1.64%
7%	0.03%	-1.45%
8%	0.07%	-1.27%
9%	0.10%	-1.10%
10%	0.13%	-0.94%

- Steady state distribution of 1yr Spot rate based on baseline FT2 GEMS scenarios, and years 80 to 100 of the projection.
- Unfloored/Shadow rates calculated by inverting the GFF formula to solve for the implied unfloored rates.
- Unfloored rates at given severity can be used directly to target the frequency of negative rates in the distribution.
- Example: to target 2% negative rate frequency in the steady state, set parameter s_0 = -2.79%

7

Appendix: Formula for Dynamic GFF

The GFF approach can be extended and made more flexible by making the fraction parameter rate dependent and effectively replacing a constant m with $m(s)$ as a function of the unfloored/shadow rate.

$$\boldsymbol{rate(s) = max(\kappa + m(s)\,(s - \kappa), s)}$$

The dynamic GFF fraction parameter can be defined as follows:

$$\boldsymbol{m(s) = m_0 + max(min(s, \kappa) - s_0, 0)\,R_0 - max(s_0 - max(s, s_{min}), 0)\,R_{min}}$$

where:

$\bar{m}$ is the terminal fraction level that applies when $s = \kappa$

$m_0 = \frac{\kappa}{\kappa - s_0}$ is the fraction that ensures $rate(s_0) = 0$

$R_0 = \frac{\bar{m} - m_0}{\kappa - s_0}$

$m_{min} = \frac{\kappa - rate_{min}}{\kappa - s_{min}}$ is the fraction that ensures $rate(s_{min}) = rate_{min}$

$R_{min} = \frac{m_0 - m_{min}}{s_0 - s_{min}}$

Illustrative parameters for Dynamic GFF that ensure 1.5% negative 1yr Spot frequency in the steady state:

Initial slope/fraction: $\boldsymbol{\bar{m} = .2}$ (original GFF parameter)

Threshold rate below which flooring is applied: $\boldsymbol{\kappa = .004}$ (original GFF parameter)

Shadow rate that maps to 0% when floored to target frequency of negative rates: $\boldsymbol{s_0 = .0303}$

Shadow rate that maps to the minimum 1yr spot in the steady state: $\boldsymbol{s_{min} = -.0655}$

8

0

Need for a Floor

Unfloored GEMS Calibration produces too large a shift in Reserves

- Without floor, shirt Yields get as low as -6%
- Produced large increases in Reserves and Capital for Interest Sensitive products
  - E.g. Roughly 3X for ULSG product analyzed via model office ahead of first field test

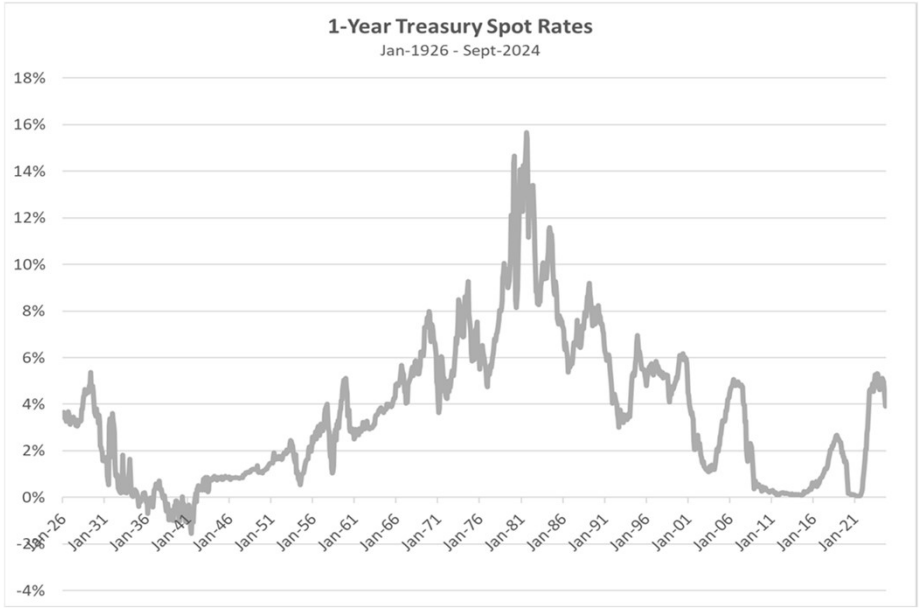
Proposed Generalized Fractional Floor (GFF)

- Used in both Field Tests
- Impacts Spot Yields below 0.40%
  - 20% scaling below that level
- Limits simulated minimum Yields to about -1.5%
- Very few negative Yields on longer bonds (i.e. >= 10 Years)

CONNING 1

1

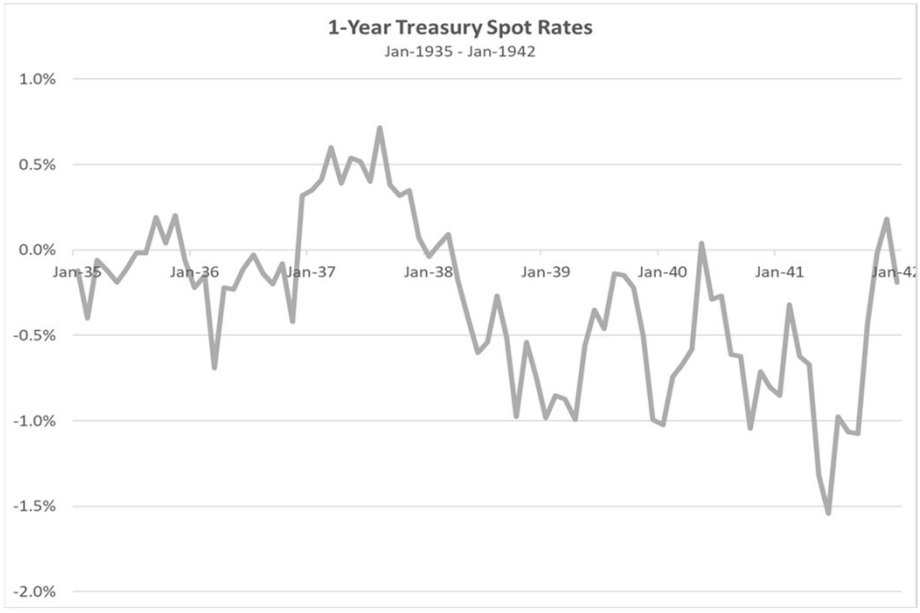
Historical Data



CONNING 2

2

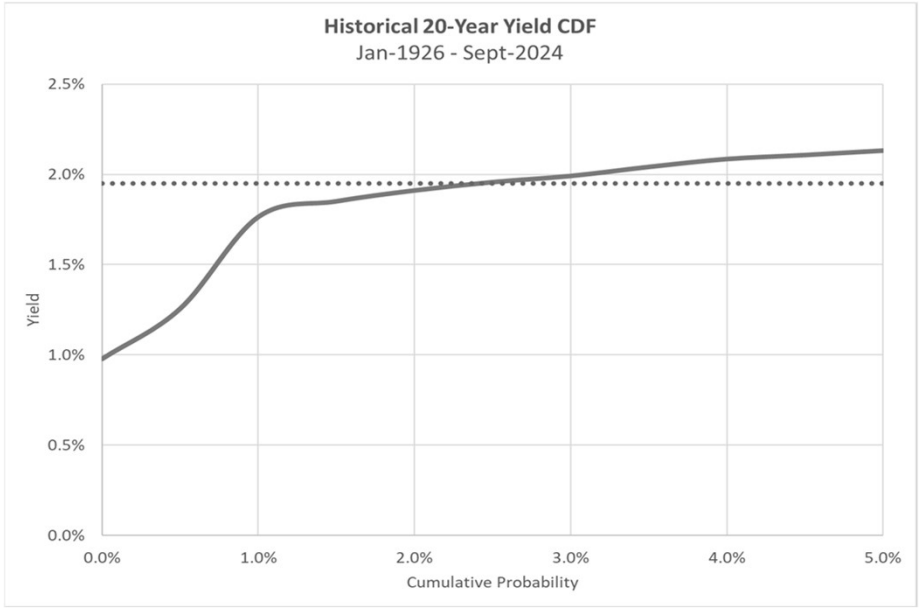
Historical Data – Negative Yields



CONNING 3

3

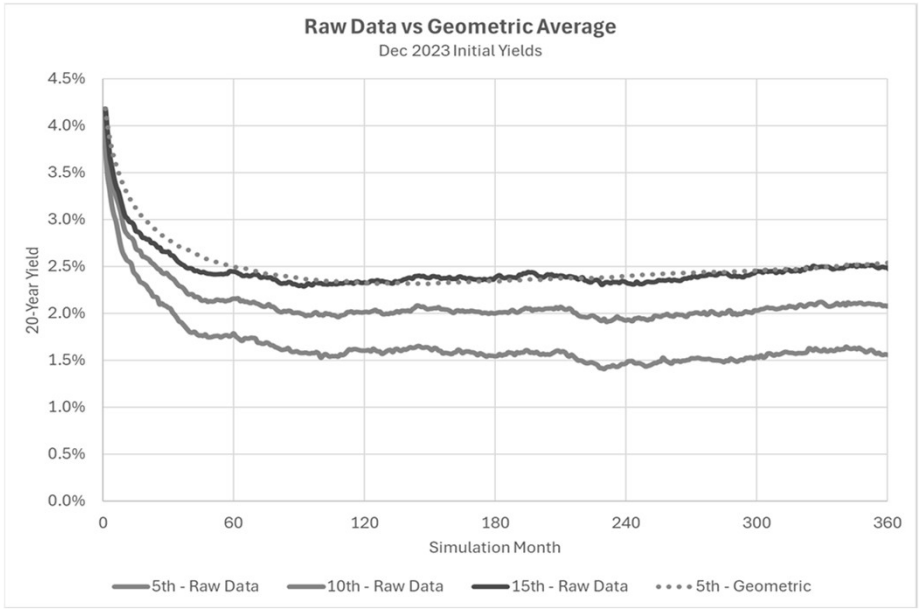
Historical Data – 20-Year Yields



CONNING 4

4

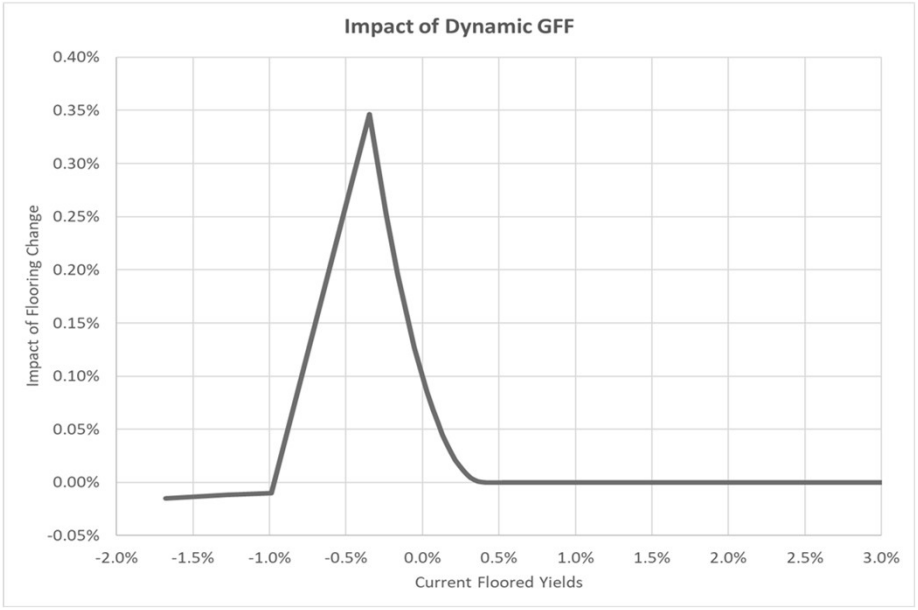
Impact of Geometric Averaging



CONNING 5

5

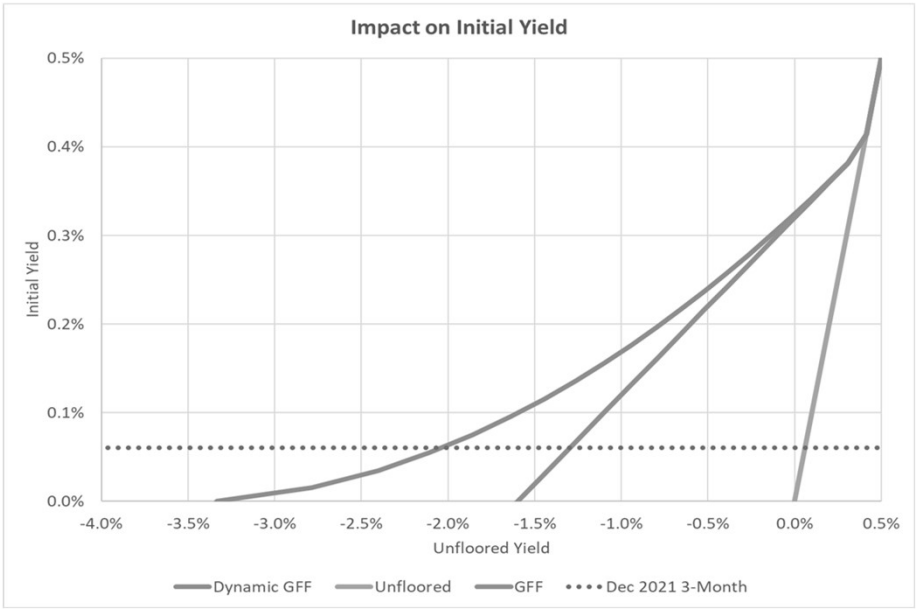
Impact of Dynamic Flooring



CONNING 6

6

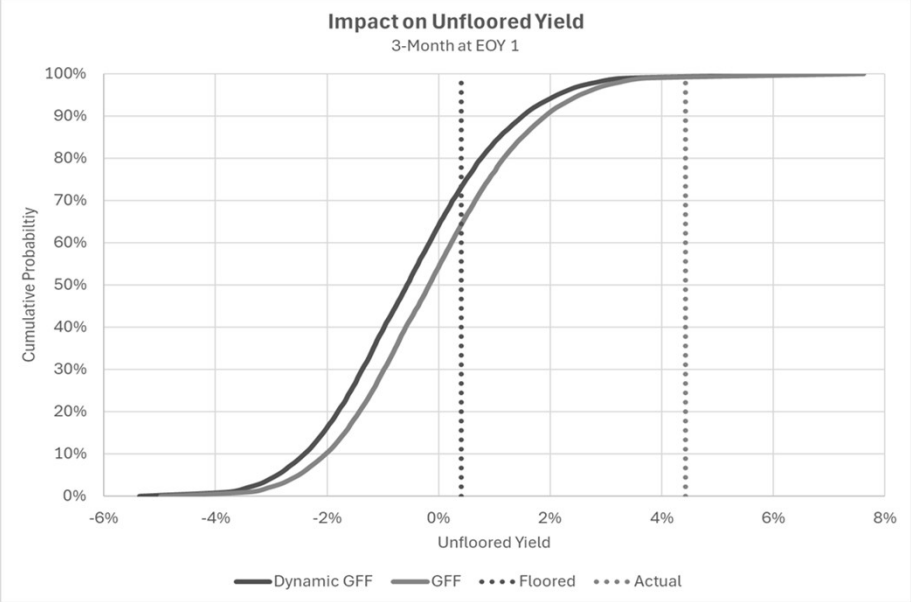
Impact of Dynamic Flooring – Dec 2021



CONNING 7

7

Impact of Dynamic Flooring – Dec 2021



CONNING

8

8

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9

Overview of Life Illustration Reviews

- The NAIC Life Actuarial (A) Task Force initially met in October 2023 to discuss how states review life insurance illustrations, discipline current scale (DCS) testing, and Actuarial Guideline 49 calculations
- Following that meeting, an informal multi-state review group was formed and selected ten companies to review in 2024
  - Scope included whole life, universal life (UL), and index universal life (IUL)
  - Included templates filled out by companies
- Except for some disclosures, the concerns observed by regulators were either limited to single companies or identified as non-urgent

1

Disclosures

Regulators observed disclosures in which IUL illustrations complied with AG 49-A, but were supplemented with comparisons between AG 49-A maximum illustrated rates and historical averages that exceeded those rates, including indices that did not exist over the associated historical period (see example below):

Index	Index Crediting Strategy	10-Year Historical Average[1]	20-Year Historical Average[1]	Maximum Illustrated Rate
Index A	10% Cap 90% Par Rate	2%	4%	5%
Index A	15% Cap 1% Pers Bonus	6%	6%	7%
Index B[1]	12% Cap 120% Par Rate	12%	10%	6%
Index B[1]	10% Cap 1% Floor	15%	14%	6%
Index C[2]	No Cap 2.5x Multiplier	19%	15%	7%

(1) The inception of Index B occurred in 2015, and therefore historical averages may include hypothetical returns
(2) The inception of Index C occurred in 2022 , and therefore historical averages may include hypothetical returns

2

Next Steps

- Expose an amendment to Section 7 of AG 49-A to address perceived issue around disclosures
- After the conclusion of the exposure period, the Life and Annuity Illustration (A) Subgroup will commence meetings to discuss comments related to the exposure
- The Subgroup intends to narrow the scope of this project by limiting changes to only Section 7 of AG 49-A

3

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1. Identify yourself, your affiliation, and a very brief description (title) of the issue.

   Identification:
   Jacob Allensworth, Texas Department of Insurance

   Title of the Issue:
   To ensure that groups with higher anticipated mortality reflect appropriate margins in the mortality rates used for the basic reserve/NPR calculation.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

   VM-20, Sections 3.C.1.g and 6.B.5.d

   January 1, 2025 NAIC Valuation Manual

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

   See attached.

4. State the reason for the proposed amendment? (You may do this through an attachment.)

   The primary intent of Section 3.C.1.g is to address the higher anticipated mortality for policies that are not subject to full underwriting (FUW), such as simplified issue policies and final expense policies. It is typical for these types of policies to have mortality experience worse than the CSO table, and thus, an adjustment is necessary. Section 3.C.1.g currently states that the mortality rates used in the NPR calculation for policies subject to PBR or the basic reserve for policies not subject to PBR should be adjusted to reflect anticipated mortality estimates if the anticipated mortality exceeds the prescribed CSO mortality rates. However, the mortality rates used in the NPR or basic reserve calculation should reflect a prudent level mortality as required by statutory accounting principles. Therefore, an update to 3.C.1.g to include margin with the anticipated mortality estimates that are compared to the CSO table is needed to remain compliant with statutory accounting principles. Section 6.B.5.d needs to be updated to remain consistent with 3.C.1.g.

Dates: Received	Reviewed by Staff	Distributed	Considered
1/28/25	S.O.		
Notes: APF 2025-01			

VM-20, Section 3.C.1.g

g. For a group of policies where the anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 exceeds the prescribed CSO mortality rates determined in Section 3.C.1.a through 3.C.1.f above, the company shall adjust the CSO mortality rates as follows:

Deleted: mortality

i. For policies that pass the Life PBR Exemption, the CSO mortality rates used to determine the basic reserve for each policy shall be adjusted in a manner commensurate with the anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 for the policies. The methodology used to test whether adjustments are needed can be performed on an aggregate basis for the group of policies using a reasonable method to compare the respective mortality rates, such as comparing the present value of future death claims discounted at the valuation interest rate used for VM-A and VM-C. However, for the purposes of this comparison, a company may not group together policies with significantly different risk profiles. If an adjustment is needed, the determination of the adjustment factors should use a reasonable methodology, subject to a cap that ensures that mortality rates do not exceed 1,000 per 1,000.

Deleted: mortality

ii. For policies where the Life PBR Exemption is not utilized, the CSO mortality rates used in the NPR calculation shall be adjusted in a manner commensurate with the anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 for the policies.

Deleted: mortality

a) When the company elects to use the DET in Section 6.B for a group of policies, the methodology used to test whether adjustments are needed should be consistent with the methodology used in Section 6.B.5.d (that is, using a comparison of the PV of future death claims discounted at the valuation rate used for the NPR). For the purposes of this comparison, a company may not group together policies with significantly different risk profiles. The determination of the adjustment factors should use a reasonably consistent methodology to the one used in Section 6.B.5.d, subject to a cap that ensures that the mortality rates do not exceed 1,000 per 1,000.

b) For the group of policies where the DET is not used, the company should use a reasonably consistent approach to the one described in paragraph a) above to test whether adjustments are needed and to determine the adjustment factors. The resulting adjustment factors are not required to be identical to the adjustment factors determined in paragraph a) above.

The resulting NPR must not be lower than the NPR calculated without adjustments to the CSO mortality rates.

Guidance Note: The anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 can be regarded as the prudent estimate mortality assumption outlined in Section 9.C.1 before the procedures described in Section 9.C.7 are applied.

Guidance Note: It is anticipated that the Section 3.C.1.g adjustments are generally applicable but not limited to policies with limited underwriting, such as simplified issue or final expense. The intent of Section 3.C.1.g is not to test every possible group of policies (e.g., attained age blocks, individual underwriting classes with lower credibility, etc.) to determine if its anticipated experience mortality assumption plus margins pursuant to Section 9.C.6 is higher than the CSO table. However, if the anticipated mortality plus margins produces a total NPR or basic reserve for a large, credible block or group of policies (e.g., a block of business assumed from another company that has significantly different mortality experience than the rest of the assuming company's business, or a large block of business from an era when the company had significantly more permissive underwriting, etc.) that is materially higher than when using the CSO table, then the adjustments in Section 3.C.1.g should be made.

Deleted: mortality

Deleted: even though more aggregate mortality experience is lower than the CSO table

Deleted:

Deleted: is expected to have worse experience than the CSO table

VM-20, Section 6.B.5.d

5. For purposes of determining the valuation net premiums used in the demonstration in Section 6.B.2:

   d. If the anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 for the group of policies exceeds the prescribed CSO mortality rates for the NPR determined in Section 3.C.1.a through 3.C.1.g, then the company shall use the anticipated experience mortality assumption as defined in Section 9.C.4 plus margins pursuant to Section 9.C.6 to determine the valuation net premium. For this purpose, mortality shall be measured as the present value of future death claims as of the valuation date discounted at the valuation interest rate used for the NPR.

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February 26, 2025

Rachel Hemphill
Chairperson, Life Actuarial (A) Task Force
National Association of Insurance Commissioners
Via email

Re: APF 2025-02

Dear Chairperson Hemphill:

Thrivent Financial appreciates the opportunity to provide feedback on the exposed APF 2025-02, which aims to provide clarity regarding VM-20 valuation rates.

While the current proposal does provide clarity to an area of ambiguity, it goes against the spirit of a Principles-Based regime where the assumptions used in valuation are meant to be as consistent as possible with the market indications at the time the reserve is established. The current process prior to rounding includes bias toward a lower rate by choosing the *lower* of the average over the prior 36 months and the average over the prior 12 months. Proceeding to then round down when there is a tie causes the result to have more potential to bias even further away from current market conditions.

We suggest replacing the round-down suggestion of the APF with a round-up approach as an equally simple solution that would remove some of the downward bias in the ultimate valuation rate. This is more aligned with the intention of Principle-Based Reserves governed by the Valuation Manual.

For the 2025 valuation rate, the observed 36-month average is 4.75% and the 12-month average is 5.58%. With these reference rates, the unrounded valuation rate calculated in VM-20 Section 3.C.2.b is 4.375% and rounding down/up would generate valuation rates of 4.25% or 4.50%, respectively.

As far as the precedent mentioned in the APF that was set with the New York Department of Financial Services' 1986 Circular Letter No. 13 and the California Bulletin 2001-04 to always round down, respectfully, we feel it is inappropriate to use these outdated guidance documents. Each of these were issued long before the Valuation Manual was implemented and prior to Principle-Based reserving methods being contemplated for Life Insurance companies. Since then, regulators and industry have worked diligently to move toward Principle-Based reserving methods that are intended to produce right-sized reserves that are more appropriately reactive to the changing environments applicable to the pricing, issuance and subsequent reserving of insurance products.

Thank you for the opportunity to provide feedback on this exposure and don't hesitate to reach out if we could provide additional context.

Rhonda Ahrens, FSA, MAAA
Vice President, Appointed Actuary
rhonda.ahrens@thrivent.com

Ted Leonard, FSA, MAAA
Director, Actuary
ted.leonard@thrivent.com

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1. Identify yourself, your affiliation, and a very brief description (title) of the issue.

Identification:
Jacob Allensworth, Texas Department of Insurance

Title of the Issue:
Modify the ULSG lapse assumption for policies with minimal CSV so that required industry table is a guardrail rather than a prescribed assumption

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

VM-20, Sections 9.D.5

January 1, 2025 NAIC Valuation Manual

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

VM-20, Section 9.D.5

5. For a universal life policy that guarantees coverage to remain in force as long as the secondary guarantee requirement is met and during projection periods in which the cash surrender value is zero or minimal, industry experience, for purposes of complying with Section 9.A.6, shall be the more conservative of the Lapse Experience Under Term-to-100 Insurance Policies published by the Canadian Institute of Actuaries in December 2021 and what the company would use otherwise. During projection periods in which the cash surrender value of such policy is zero or minimal, the assumption shall grade from credible company experience to industry experience as defined above in five projection years from the last duration where substantially credible experience is available.

Deleted: the rates in the Lapse Experience Under Term-to-100 Insurance Policies published by the Canadian Institute of Actuaries in December 2021

4. State the reason for the proposed amendment? (You may do this through an attachment.)

Section 9.D.5 currently requires the lapse assumption for UL policies that guarantee coverage remains in force as long as the secondary guarantee requirement is met and have little to no CSV be graded from credible company experience to the rates in the CIA Term-to-100 lapse table, starting from the last duration where substantially credible experience is available. While this was generally expected to be conservative, multiple companies have raised that, for certain types of business, this prescription is not conservative as it was intended. As a result, using the CIA lapse table could result in a modeled reserve that is lower than if the company determined its own industry experience to apply.

This APF addresses this issue by modifying Section 9.D.5 to require that the industry experience used to determine the anticipated lapse experience assumption for durations without credible company experience be the more conservative of the CIA Term-to-100 lapse table and the industry table the company would use otherwise. This modification positions the CIA Term-to-100 lapse table as a guardrail rather than a prescribed assumption, ensuring that the lapse assumption used will never result in a modeled reserve that is lower than when using the anticipated lapse experience that the company would otherwise apply. Ultimately, this modification enhances the overall conservatism and accuracy of the reserve calculation.

Dates: Received	Reviewed by Staff	Distributed	Considered
02/10/2025	S.O.		
Notes: APF 2025 -03			

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March 11, 2025

Rachel Hemphill
Chair, NAIC Life Actuarial (A) Task Force (LATF)

Re: Exposure of APF 2025-05

Dear Chair Hemphill:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on APF 2025-05 regarding revenue sharing.

We appreciate that the APF tries to clarify the guidance note on guaranteed revenue sharing. We note that there are some nuanced technical issues around tiered arrangements that this APF introduces. For tiered arrangements, complexity is introduced if some of the tiers are treated as guaranteed and others would not; it is unclear how a company would apply the factors to only the non-guaranteed portions. Additionally, for a given tiered revenue sharing arrangement for life insurance it may be unclear what tier policies in scope of VM-20 would fall under when the arrangement would also include pre-VM-20 policies. We also do not think it is necessary to specify affiliated vs non-affiliated. We recommend the following edits (redlined from the exposed language).

> **Guidance Note:** Provisions that give the entity ~~(affiliated or non-affiliated)~~ paying the revenue-sharing income the option to stop or change the level of income paid would prevent the income from being guaranteed. Similarly, if the revenue-sharing income is contingent upon the status of a particular plan or fund, and that plan or fund can be terminated, replaced, or not renewed by the paying entity, the revenue-sharing income ~~would~~ may not be considered guaranteed. Furthermore, if the level of revenue-sharing income is tiered or otherwise depends on the total balances of a particular plan or fund, a portion or the entirety of the income (depending on the structure of the performance-based provisions) ~~would~~ may not be considered guaranteed. However, if such options, contingencies, or dependencies become available only at a future point in time, and the revenue up to that time is guaranteed, the income is considered guaranteed until the point at which any such options, contingencies, or dependencies first become available.

American Council of Life Insurers | 101 Constitution Ave, NW, Suite 700 | Washington, DC 20001-2133

Regarding the cover note question, we support retaining both instances of the language as a guidance note. The language provides guidance on the applicability of the VM-20 Section 9.G.8.a versus 9.G.8b, and VM-21 Section 4.A.5.f.i versus 4.A.5.f.ii. Consistent with our rationale and recommendation above, retaining as a guidance note is more appropriate.

Thank you once again for the consideration of our comments and we look forward to additional discussion at an upcoming LATF session.

Sincerely,

Colin Masterson

cc: Scott O'Neal, NAIC

Actuarial Guideline 53 Reviews

Life Actuarial Task Force

Fred Andersen, FSA, MAAA

3/22/2025

AG 53 – Background

- Adopted in 2022
- Provides insight into companies' complex assets
  - Including how the assets are modeled in asset adequacy analysis
- Documentation on:
  - Asset net return assumptions
  - Model rigor, capturing of risks in complex assets
  - Fair Value determination
  - Company-originated assets
  - Investment expenses
  - Reinsurance collectability risk

AG 53 – Prior Discussions

- Focus on outlier net return assumptions
- Engagement with companies and domestic regulators to reduce or eliminate outlier cases

AG 53 – Today's Discussion

- Responses re: fair value determination

Internally-determined fair values
Tendencies in responses

1. Placement in fair value hierarchy
2. Projected values
3. Asset types
4. Valuation method
5. Discount rate determination
6. Calibration
7. Disclosure
8. Team involved / governance
9. Fair value impact

Internally-determined fair values – tendencies in responses
Placement in Fair Value Hierarchy

- Level 3 valuation
- Reliance on internal / proprietary modeling to determine the asset's value
  - When there is little or no readily available market data on prices and infrequent trading
  - Modeling by insurance company or associated investment manager

Internally-determined fair values – tendencies in responses
Projected values

- Cash-flow testing projections include asset sales and valuation of ending assets
- Do all projected fair values and reinvestment asset values, even for non-Level 3 assets, contain concepts from Level 3 valuation?
  - Judgment, internal modeling
- Is the range of projected asset fair values in line with moderately adverse conditions?
  - Should more than just Treasury rate movements be considered?
    - e.g., prepayment changes, other optionality, liquidity stresses, volatility impact

Internally-determined fair values – tendencies in responses
Asset types

- Commercial and residential mortgages
  - Not typically the first in line to be liquidated, but perhaps in stress scenario
  - Determination of fair value could be an area of particular focus outside of AAT reviews
  - RBC factor is based on loan-to-value so fair value determination is important
- Private placements / private bonds
  - Private bonds are issued through a private placement
  - A private placement is a way to sell bonds to a select group of investors

Internally-determined fair values – tendencies in responses
Asset types, 2

- Affiliated assets
- Middle market loans
- Limited partnerships
- Loans with internally assigned rating
- Real Estate

9

Internally-determined fair values – tendencies in responses
Valuation method for each asset

- Project remaining cash flows from the asset
- Discount at Treasury rate (reflecting changes from the start) + risk spread
- Consider impact of Treasury rate scenario on asset cash flows and discount rate
- Based on both observable market inputs and estimated model parameters
- "Matrix pricing"
  - Means starting with an illiquid, private asset with no price info (not actively traded)
  - Compare it with another asset with similar features such as maturity, coupon rate, credit rating
- Reinvestments: market value = book value at purchase date, then recalculated

10

Internally-determined fair values – tendencies in responses
Discount rate

- Used to discount projected asset cash flows to attain asset fair value
- Typically: Risk-free rate + risk spread
- Discount rate inputs:
  - Risk-free rates: Treasury rates (current and projected at time of asset sale), forward rates (SOFR or other), swap curves
  - Credit spreads: from sources, reflective of expected defaults & recoveries and other causes of underperformance
  - Other: prepayment & other optionality, illiquidity price haircut, volatility impact
  - Are these factors modeled to impact cash flows or discount rates?
    - Could be an option-adjusted spread if optionality embedded in discount rate

Internally-determined fair values – tendencies in responses
Discount rate, 2

- Option adjusted spread (OAS) example
  - Considers options embedded in asset, e.g., prepayments
  - Calculated at current time
  - Used to equate present value of cash flows to market price of security
  - Kept OAS constant in projection (any comments on this approach?)
- Consider industry, credit, tenor
- Assumptions may need to be estimated as those used by market participants to value asset

Internally-determined fair values – tendencies in responses
Discount rate, 3

- Example: middle-market CLOs
  - Discount rate based on:
    - Spread on broadly syndicated CLOs +
    - Yield premium for middle market CLO +
    - Illiquidity premium +
    - Maturity consideration

Internally-determined fair values – tendencies in responses
Calibration

- Calibrate derived fair value with external benchmarks
  - Examples of these external benchmarks?

Internally-determined fair values – tendencies in responses
Disclosure

- Example: one company provided a helpful grid, showing:
  - Asset type
  - Source of statement value
  - Source of fair value
    - External examples (from more than one company):
      - Bloomberg, Intercontinental Exchange, Pricing Direct, StatPro, Appraised values (real estate), Simcorp Dimension (SCD), Findur, IHS Markit
    - Internal examples (from more than one company):
      - Price repository & calculator, SCD
  - Whether fair value is determined internally

Internally-determined fair values – tendencies in responses
Team involved / governance

- Example 1:
  - Investment manager provides fair values or
  - Internal trading desk uses proxy / comparable instrument, matrix pricing method

Internally-determined fair values – tendencies in responses
Team involved / governance, 2

- Example 2 - pricing from 3rd party vendors or alternative valuation providers
  - Market values determined by investment accounting & reporting firm (not considered internal)
  - These market values are then provided to structured asset valuation firm
  - Pricing from independent specialist goes into insurance company accounting system

Internally-determined fair values – tendencies in responses
Team involved / governance, 3

- Pricing from 3rd party vendors or alternative valuation providers
  - Are these actually arms length / 3rd party
  - Does it matter much if it's 3rd party versus internal?
- Oversight
  - Valuation method approved by committee
- Extra review
  - If asset value is in excess of threshold
- Ask for evidence on adjustments to valuations being made at the different levels of governance

Internally-determined fair values – tendencies in responses
When would assets tend to need to be sold?

- Resulting from disintermediation risk starting with interest rates rise
- Market values of assets decline
- At the same time, deferred annuity holders may have better credited rate opportunities elsewhere
  - Other companies may not have illiquid assets locked in at returns based on past (lower rate) environment
- Mass surrenders mean the company needs to sell assets to meet cash surrender demands
  - Sell liquid assets first
  - But may need to tap into selling less liquid assets
  - Are companies appropriately considering this risk, e.g, with a significant haircut?

Internally-determined fair values –
How would an incorrect fair value determination impact:

1. Cash-flow testing (CFT) results where assets sold
2. CFT ending assets / where assets are not sold?
   a) Sign of underestimated risk of default / underperformance in cash flows?
3. Solvency metrics
4. Perception of financial stability
5. Balance sheet / reported values for assets valued at fair value (most valued at book)
6. RBC factors, e.g., loan-to-value impacts commercial mortgage RBC factors
7. Risk management
8. Mergers / acquisitions
9. Liquidity

Reinsurance Asset Adequacy Testing

Life Actuarial Task Force

Fred Andersen, FSA, MAAA

3/22/2025

Agenda

1. Background
2. Timeline
3. Progress made
4. Current topics
5. Summary of comments
6. Walk-through of draft
7. Potential next steps

Background

- Reminder of goals:
  - Provide US state regulators what is needed to review the reserves & solvency of US life insurers.
  - Steer clear of conflict with reciprocal jurisdiction / covered agreement issues. And
  - Prevent work by US ceding companies where there's immaterial risk.

Timeline

- March 22-23, 2025 – LATF discussion, possible exposure of latest Guideline revision
- April 24, 2025 – LATF discussion, new exposure
- May 8, 2025 – Final exposure
- May 29, 2025 – LATF consideration of adoption
- June - July 2025 – A Committee consideration of adoption
- August 13, 2025 – Exec / Plenary consideration of adoption
- April 1, 2026 – First reports due

Topics – progress previously made

- Disclosure only
- Narrow scope
- Focus on asset intensive reinsurance
- Potential for lesser analysis for certain non-affiliated treaties with substantial risk protections
- Reliance on reports similar to VM-30 / AG 53

5

Current topics

- NY 7 Treasury rate scenarios
- Associated Party - details
- Mandatory cash-flow testing (CFT) situations
- Disclosure wording – Academy wording
- Starting asset amount – mandatory and optional alternative runs
- Starting asset amount – post-reinsurance reserve specifications
- Similar memorandum – example

6

Current topics

- CFT showing conservative asset returns result in adequacy if unable to model actual assets?
- Primary security terminology
- Aggregate testing (not just results) for similar treaties with same counterparty
- Disclosure / Template

New York 7 Treasury Rate Scenarios

6D. Projection on interest rate scenarios, such as the New York 7, that allow for easy to review impact of reinvestment and disintermediation risks should be performed and explanations of how key risks are analyzed should be documented.

- Recognition that a vast majority of life insurers with asset-intensive business perform NY 7 testing
- Desire to allow flexibility in light of similar work performed for other jurisdictions
- **Ok with this wording?**

Associated Party

- Because some regulators may have comfort providing exemption in certain cases
  - For clearly non-affiliated transactions with substantial safeguards
- Rationale for these transactions may generally tend to be different than for not clearly non-affiliated transactions
  - So open to discussion on some exemptions for these treaty types
- Draft term: Associated Party
  - Current thinking: affiliated or a lot of business with that entity or some ownership or some close connection over the past 10 years
  - Without this term agreed to, less likelihood of exemption possibilities in non-associated party cases
- **Ok with having this definition, the term, and the details of definition?**

Associated Party, 2

3C. Associated Party – Only for purposes of this Guideline means:

i. An entity that otherwise meets the NAIC Model Act 440 definition of an Affiliate or meets the NAIC classification as a related party or;

ii. For which greater than 25% of the assuming reinsurer's reserves have been assumed from the ceding company or entities in the same group as the ceding company or;

iii. An entity that has 1% or higher ownership of the assuming reinsurer.

iv. An entity which would have met any of the criteria in items i through iii at any point on or after 1/1/2015.

5H. For year-end 2025 submissions, in certain cases an exemption from cash-flow testing may be provided by the ceding company's domestic regulator according to the following criteria:

i. The assuming company is not an Associated Party, and

ii. Risks from Section 4 are demonstrated to be non-substantial (including consideration of risk mitigants in section 4.C., and

iii. Attribution Analysis of any reserve decrease (including non-primary security counting as part of the reserve decrease) is contained in the submission, and

iv. The Pre-Reinsurance Reserve associated with all counterparties within a group is less than $5 Billion.

Mandatory CFT Situations

- Treaties in Section 2 scope – CFT required per the following:

5.A.(1) Cash-flow testing is expected for Associated Party treaties falling within the Scope of the Guideline, stated in Section 2.

5.A.(2) Cash-flow testing is expected for non-Associated Party treaties falling within the Scope of the Guideline, stated in Section 2, except in certain cases described in Section 5.H.

- **Any objection with this approach?**

Mandatory CFT Situations

- Treaties in Section 2 scope – CFT required per the following:

5.A.(1) Cash-flow testing is expected for Associated Party treaties falling within the Scope of the Guideline, stated in Section 2.

5.A.(2) Cash-flow testing is expected for non-Associated Party treaties falling within the Scope of the Guideline, stated in Section 2, except in certain cases described in Section 5.H.

5.H.For year-end 2025 submissions, in certain cases an exemption from cash-flow testing may be provided by the ceding company's domestic regulator according to the following criteria:

(1) The assuming company is not an Associated Party, and

(2) Risks from Section 4 are demonstrated to be non-substantial (including consideration of risk mitigants in section 4.C., and

(3) Attribution Analysis of any reserve decrease (including non-primary security counting as part of the reserve decrease) is contained in the submission, and

(4) The Pre-Reinsurance Reserve associated with all counterparties within a group is less than $5 Billion.

- **Any objection with this approach, including the 5.H.(4) size restriction?**

Disclosure wording

5B. For year-end 2025, the Appointed Actuary should consider the analysis required to be performed by this Actuarial Guideline, along with other relevant information and analysis in forming their opinion regarding the potential need for additional reserves. In the event that the Appointed Actuary believes that additional reserves are required (based on their application of appropriate actuarial judgment), then the Appointed Actuary should reflect that in their Actuarial Opinion.

This Guideline does not include prescriptive guidance as to whether additional reserves should or should not be held. As is already the case, such determination is up to the Appointed Actuary, and the domestic regulator will continue to have the authority to require additional reserves as deemed necessary.

- **Is this wording ok?**

Starting Asset Amount – Mandatory & Optional Alternative Runs

- Mandatory Run: starting asset amount = post-reinsurance reserve
- Optional Alternative Run: opportunities for higher starting asset amounts with justification provided

B. Starting Asset Amount

i. The lower the Starting Asset Amount, the lower the ending surplus in the projection, the more likely an actuary would determine additional reserves would be prudent, and therefore the more conservative the analysis.

ii. For one mandatory run of cash-flow testing, the Starting Asset Amount shall be equal to the Post-Reinsurance Reserve.

{Wording from the Academy or elsewhere on expectations of the Appointed Actuary related to the Mandatory Run}

iii. An Alternative Run of cash-flow testing may also be provided, at the option of the company, using a Starting Asset Amount equal to an alternative amount higher than the Post-Reinsurance Reserve. The Appointed Actuary should provide justification in their documentation about the appropriateness of the Starting Asset Amount in the Alternative Run.

- **Any objection with this approach?**

Starting Asset Amount – Post-Reinsurance Reserve specifications

3H. Post-reinsurance Reserve – Following a reinsurance transaction, the amount of reserves held by the ceding company plus the amount of reserves held by the assuming company minus the amount of reserves held by the assuming company supported with assets other than Primary Security.

9.B.i.(c) (Required documentation includes:) Post-Reinsurance Reserve, including any explanation of handling of cases, for example where the ceding company reserve may be based on book value and the assuming company reserve may be based on market value.

- Is an explanation of any book value / market value aspects sufficient for this purpose?
- Keep the term "post-reinsurance reserve"? Or "Tested Reserve Amount" with same definition?
- **Any comments?**

Similar Memorandum - Example

5G. A Similar Memorandum may be submitted as an appropriate alternative to cash-flow testing in some instances, if the Similar Memorandum is easily readable for review of the risks and analysis related to the scope of this Guideline, and based on the Similar Memorandum the cedant's domestic regulator finds, with the assistance of the Valuation Analysis (E) Working Group, that they are able to determine whether the assets are adequate to support the liabilities under moderately adverse conditions.

i. For year-end 2025, the ceding company should make every effort to ensure the readability and ease of access to key information in a Similar Memorandum. It is possible that additional guidance will be provided regarding Similar Memorandum expectations for year-end 2026.

- **Examples of CFT-focused or non-CFT focused similar memorandum?**

Use of conservative asset returns in lieu of actual assets in CFT?

- Preferred: model actual assets supporting the reserve to test for reserve adequacy
  - Including downside associated with any riskier assets
- **Acceptable?**: If actual assets are not able to be modeled, assume conservative asset returns to demonstrate reserve adequacy

Primary Security terminology

3H. Post-reinsurance Reserve – Following a reinsurance transaction, the amount of reserves held by the ceding company plus the amount of reserves held by the assuming company minus the amount of reserves held by the assuming company supported with assets other than Primary Security.

3I. Primary Security – [As defined in Section 4.D. of Actuarial Guideline 48] *{or replace with another term to describe a stable asset supporting reserves}*

4B. Relevant risks – For the purpose of determining the amount of rigor and frequency of analysis and documentation, relevant risks include one or more of the following:

iii. A significant use of non-Primary Security to support reserves.

{Is there another metric besides "Primary Security" that can provide comfort that appropriately stable assets are supporting reserves?}

6.B.iii. An Alternative Run of cash-flow testing may also be provided, at the option of the company, using a Starting Asset Amount equal to an alternative amount higher than the Post-Reinsurance Reserve. The Appointed Actuary should provide justification in their documentation about the appropriateness of the Starting Asset Amount in the Alternative Run.

(a) For the purposes of this paragraph, principles that would tend to lead to a higher Starting Asset Amount include:

(1) Primary Security dedicated assets *{above a certain quality threshold?}* support the reinsured business.

- **Any concerns with the term "Primary Security" to be used in this context?**

Aggregate testing for similar treaties with same counterparty

8A. When determining whether a block is a Deficient Block or a Sufficient Block, cash-flow testing should be performed separately 1) by counterparty, 2) by significant product lines, consistent with, for example, the aggregation standards in VM-20, VM-21, and VM-22, and 3) by business on a PBR vs. non-PBR framework.

8E. In appropriate instances, only one cash-flow testing run needs to take place for multiple similar treaties covering the same product type and on the same PBR or non-PBR basis in effect within the scope timeframe of the Guideline with the same counterparty.

- **Acceptable concept and wording?**

Disclosure / Template

- Information on treaties
- Cash-flow testing assumption information
- Cash-flow testing results
- Attribution analysis
- Risk identification

- Templates

- **Acceptable?**

SOCIETY OF ACTUARIES RESEARCH UPDATE TO LATF

March 23, 2025

R. Dale Hall, FSA, MAAA, CERA, CFA
Managing Director of Research

1

Experience Studies Update

- Experience Studies Pro partnership with LIMRA – subscription model
  - 30 data-providing companies agreed to purchase 2025 subscription
  - Thus far, membership accounts for accounts for a large proportion of the industry
  - Additional outreach to target medium/small companies in the near future and companies with group-only business
  - Study production guided by industry advisory council of member firms, opining on timing and cadence of research in different product lines

2

2

Experience Studies Update

SOA Research Institute / LIMRA Experience Studies Pro Study Schedule

Currently scheduled studies

Study	2025				2026				2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Group Long-Term Disability Incidence												
Individual Life Term Conversions												
Fixed Index Annuity Behavior												
Long Term Care												
Fixed Rate Deferred Behavior												
Variable Annuity Behavior												
Post-Level Term Mortality and Lapse												
Payout Annuity Mortality												

Data Request
Standard Data Package

SOA Research Institute

3

3

Experience Studies Update

- Goal of Experience Studies Pro is to keep studies current within five years for all major product lines
- Attempting to improve data collection and output over time per industry feedback
- Aiming to build out capacity to release 6-7 studies each year
- Some studies, such as annuity policyholder behavior studies, will likely be repeated annually

SOA Research Institute

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Additional Life Research

5

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Experience Studies

Project Name	Objective	Link/Expected Completion Date
2000-2022 U.S. Historical Population Mortality Rates	Publish unsmoothed SSA-Style historical mortality rates for 2000-2021	https://www.soa.org/resources/research-reports/2024/us-historical-mortality/
2024 Life Mortality Improvement	Develop AG38 mortality improvement assumptions for YE 2024	https://www.soa.org/resources/research-reports/2024/ind-live-mort-ag38/
2015-2022 Whole Life/Term Lapse and Surrender - Report	Complete a study of Whole Life/Term Lapse and Surrender	https://www.soa.org/resources/experience-studies/2024/15-22-twlls/
Predictive Analytics Framework	The theme is around the sharing and warehousing of PA tools and information, similar to a data science environment.	https://www.soa.org/resources/research-reports/2024/predictive-analytics-framework/
ILEC Mortality Experience - Update for 2012 - 2019	Draft a report updating the ILEC mortality experience reporting for 2019	https://www.soa.org/resources/research-reports/2024/ilec-mort-2012-19/
2021-23 Fixed Indexed Annuity Study - Report	Examine lapse and the utilization of guaranteed living withdrawal benefit options on fixed index annuity policies under a Joint SOA/LIMRA project and release Tableau visualizations with the observations from the study.	https://www.soa.org/resources/experience-studies/2024/21-22-fia/
Group Life COVID-19 Mortality Survey Update - 2Q24 Report	Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.	https://www.soa.org/resources/experience-studies/2024/group-life-covid19-mort-survey/
Group Life COVID-19 Mortality Survey Update - 3Q24 Report	Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.	https://www.soa.org/resources/experience-studies/2024/group-life-covid19-mort-survey/
GRET for 2025 - Create Factors	Develop the Generally Recognized Expense Table (GRET) for 2025	https://www.soa.org/resources/research-reports/2024/2025-gret-recommendation/
US Population Mortality Observations: Updated with 2022 Experience	Explore observations from the release of the 2022 U.S. population mortality data.	3/6/2025

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Practice Research

Project Name	Objective	Link/Expected Completion Date
Comparison of 2015 VBT to Socioeconomic decile mortality	Examine life insurance VBT vs NCHS mortality by socioeconomic category.	POG is incorporating this into MIM-2021 Tools for 2024 update release.
Cause-Specific Excess Mortality During the COVID-19 Pandemic	Study and quantify the excess death and excess morbidity impacts of the COVID-19 pandemic beyond the acute phase	https://www.soa.org/resources/research-reports/2024/cause-specific-excess-mort-covid/
Mortality Improvement Credibility	Examines methodologies for determining at what point is insured mortality data fully credible or reliable for mortality improvement modeling	https://www.soa.org/resources/research-reports/2024/data-limit-mort-rate-estimates/
Review of Offshore Life and Annuity Jurisdictions Reinsurance Landscapes	Examine the offshore reinsurance landscapes	4/30/2025
ALM Practices	Conducts a survey of current ALM practices focused on various life insurance company products with attention paid to issues such as general account vs. separate account product distinctions.	3/17/2025
Fairness Metrics for Life Insurance	Identify and discuss a variety of quantitative metrics that could be used to evaluate fairness of life insurance products under different definitions of fairness.	5/31/2025
Primer on Investment-Related Regulatory Approaches for Banking versus Insurance Industries	Produce a primer that compares regulatory approaches for actuarially related investment aspects of the banking and insurance industries in North America.	6/30/2025
Expert Opinion on Impact of COVID-19 on Future Mortality - Survey 3	Survey panel of experts on short and mid term thoughts on future population and insured mortality	2/28/2025
Criminal Histories and Mortality	Conduct an expert panel discussion on data and resources used for linking criminal history and mortality	7/31/2025
U.S. Drug Abuse Epidemic: Past Present and Future	Create a resource that examines the evolution uf the U.S. drug epidemic and outlook of the impact on future mortality.	7/31/2025

SOA Research INSTITUTE

7

7

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Life Practice Council Update

Life Actuarial (A) Task Force (LATF) Meeting
March 23, 2025

American Academy of Actuaries

1

About the Academy

2

Mission:
To serve the public and the U.S. actuarial profession.

Community:
Serving over 20K MAAAs & public stakeholders for 60 years

Standards:
Setting qualification, practice, and professionalism standards

Impact:
Delivering over 300 insight-driven publications & resources annually

Visit www.actuary.org to learn more.

American Academy of Actuaries

2

Recent NAIC Engagement

3

Life Risk-Based Capital (E) Working Group

- Update on C-3 Factor Alignment

Risk-Based Capital Investment Risk and Evaluation (E) Working Group

- Update on CLO Comparable Attributes

American Academy of Actuaries

3

Recent and Upcoming LPC Activity

4

Webinars/Seminars:

- ASOP 2 Practice Note Webinar (Spring ’25)
- Insurance Investment Summit (May 22–23)

Publications

- Practice Note—Asset Adequacy Analysis (updated for 2024)
- Practice Note—ASOP No. 2, Nonguaranteed Elements for Life Insurance and Annuity Products

American Academy of Actuaries

4

Recent Academy Activity

5

Webinars/Events:

- Behavioral Economics in Insurance and Retirement Planning: Select Award for Research Submissions
- The State of Long-Term Care Insurance
- Collective Defined Contribution (CDC) Plans: What Are They and Could They Work in the U.S.?

Publications

- Natural Experiments Issue Paper
- The State of Long-Term Care Insurance—2025
- Supplement to the 2024 COPLFR Practice Note—LA Wildfires

American Academy of Actuaries

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Plan ahead for these 2025 events

Insuring the Future: Insurance Investment Summit
May 22-23, 2025
New York, NY
Register Now

Future of Retirement Symposium
June 12, 2025
Washington, DC

L&H Qualifications Seminar
November 17-20, 2025
Arlington, VA

P/C Opinion Seminar
December 8-9,2025
Salt Lake City, UT

www.actuary.org/calendar

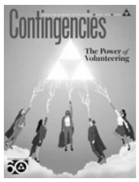
6

Other Academy Resources

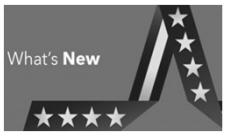
7

Follow the Academy on LinkedIn

Access the Following Resources:



Contingencies Magazine



Policy Issue Forum

Actuarially Sound Blog

Actuary Voices Podcast

AMERICAN ACADEMY of ACTUARIES

7

Questions?

8

For more information, please contact
Amanda Barry-Moilanen, Policy Project Manager, Life
barrymoilanen@actuary.org

AMERICAN ACADEMY of ACTUARIES

8

February 28, 2025

Rachel Hemphill
Chair, Life Actuarial (A) Task Force
National Association of Insurance Commissioners

Re: AAA Illustration Actuary Knowledge Statements

Dear Chair Hemphill:

On behalf of the Life Illustrations Subcommittee and Life Products Committee (Committee) of the American Academy of Actuaries,[1] I appreciate the opportunity to provide comments to the Life Actuarial Task Force (LATF) regarding the Illustration Actuary Knowledge Statements exposed for comment until March 3, 2025[2].

Our group was not necessarily clear on the intent, use, and potential "enforcement" or "actionability" of these knowledge statements as they pertain to the illustration actuary. We believe that having an introduction and background section on the intent and purpose of the knowledge statements would be extremely helpful. In this letter, we have provided questions, comments, and suggested wording changes based on the idea that these sets of knowledge statements are to aid the actuary in self-assessing capabilities and understanding before considering the acceptance of appointment as an illustration actuary or performing work as an illustration actuary. If our understanding is incorrect with regards to how these knowledge statements are going to be used by any party, we would request additional time to address the exposure to ensure our understanding and response meets the needs of LATF, and assists illustration actuaries appropriately.

Please note that some of the proposed edits attempt to confirm or clarify that not all aspects of the knowledge statements may apply in all situations for every illustration actuary. For example, someone working for a stock company should not need to understand requirements for a Fraternal company, or someone certifying for only a standard universal life policy would not need to know all aspects of whole life or indexed universal life.

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For 60 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

[2] AAA Illustration Actuary Knowledge Statements

*****

Thank you again for the opportunity to provide comments. If you have any questions or would like to discuss these comments further, please contact Amanda Barry-Moilanen, the Academy's policy project manager, life.

Sincerely,

Donna Megregian, MAAA, FSA
Chairperson, Life Products Committee
American Academy of Actuaries

Knowledge Statements for Illustration Actuaries Certifying Illustrated Scales in Conformance with Model 582

These knowledge statements would apply to Illustration Actuaries submitting a certification that the illustrated scales of non-guaranteed elements (NGEs) meet the requirements of the Life Insurance Illustrations Model Regulation (Model 582).

Model 582 requires the Board of Directors of each insurance company to appoint at least one Illustration Actuary, sets forth basic qualifications, and requires certain certifications and disclosures be provided to state regulators. These include requirements that the Illustration Actuary shall:

- Certify that the disciplined current scale used in illustrations is in conformity with the Actuarial Standard of Practice (ASOP) for Compliance with the NAIC Model Regulation on Life Insurance Illustrations promulgated by the Actuarial Standards Board (ASB), and that the illustrated scales used in insurer-authorized illustrations meet the requirements of this regulation.

- Disclose in the annual certification whether, since the last certification, a currently payable scale applicable for business issued within the previous five (5) years and within the scope of the certification has been reduced for reasons other than changes in the experience factors underlying the disciplined current scale. If NGEs illustrated for new policies are not consistent with those illustrated for similar in-force policies, this must be disclosed in the annual certification. If NGEs illustrated for both new and in-force policies are not consistent with the NGEs actually being paid, charged, or credited to the same or similar forms, this must be disclosed in the annual certification.

- Disclose in the annual certification the method used to allocate overhead expenses for all illustrations.

- File a certification with the company's Board and with the Commissioner: (a) annually for all policy forms for which illustrations are used; and (b) before a new policy form is illustrated.

The Academy's qualification standards for rendering an opinion are in the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" (USQS), effective Jan. 1, 2022. The standards were revised from prior editions of this qualification standard and therefore specifically apply to actuaries issuing Statements of Actuarial Opinion (SAO) starting on Jan. 1, 2023. Furthermore, such actuaries need to meet the continuing education (CE) requirements before issuing any SAO.

Section 2.1 of the USQS specifies the Basic Education and Experience Requirements, stating that an actuary should have achieved the following:

- Through education or mutual recognition, received a fellow or associate designation from either the Society of Actuaries (SOA) or the Casualty Actuarial Society (CAS). It is important to note that this would most likely be the SOA for an actuary issuing a certification relating to illustrated scales of NGEs for life insurance policies.

- Membership in the American Academy of Actuaries (Academy).

- Three years of responsible actuarial experience, which is defined as work that requires knowledge and skill in solving actuarial problems.

Commented [DM1]: ASOP 24 and Model 582 were developed at the same time and dependent upon each other. The Model also says the DCS should be in conformity with ASOP 24. Should these statements be about both the Model and the ASOP?

Commented [DM2]: If the ASOP is added, this sentence should say "and that the disciplined current scale is in conformity with ASOP 24".

- Be knowledgeable, through education or documented professional development, of

  1. U.S. Law, including statutes, regulations, judicial decisions, and other statements having legally binding authority, applicable to the SAO, and

  2. U.S. actuarial practices and principles.

- Have either

  1. Obtained fellowship in the CAS or SOA. In addition to obtaining this fellowship, the actuary must:

     i. Have completed education relevant to the subject of the SAO. Such education may have been obtained in attaining the fellowship designation or highest possible designation of a non-U.S. actuarial organization, or by completing additional education relevant to the subject of the SAO; or

     ii. Have a minimum of one year of responsible actuarial experience in the particular subject relevant to the SAO, under the review of an actuary who was qualified to issue the SAO at the time the review took place under the USQS in effect at the time.

  OR

  2. Have a minimum of three years of responsible actuarial experience in the particular subject relevant to the SAO, under the review of an actuary who was qualified to issue the SAO at the time the review took place under the USQS in effect at that time.

Section 3 of the USQS specifies the Specific Qualification Standards beyond those required to satisfy the General or Basic Education and Experience requirements. For issuing Life, A&H, and Fraternal SAO, this includes examinations administered by either the Academy or SOA covering:

(a) policy forms and coverages,

(b) dividends and reinsurance,

(c) investments and valuations of assets and the relationship between cash flows form assets and related liabilities,

(d) statutory insurance accounting,

(e) valuation of liabilities, and

(f) valuation and nonforfeiture laws.

Alternatively, this education may be acquired through responsible work or self-study, if another qualified actuary familiar with the work is willing to attest to the knowledge of the opining actuary. To meet the experience requirement, an actuary is required to have at least three years of responsible experience relevant to the Opinion, under the review of another actuary who was qualified to issue the Opinion at the time the review took place.

Section 3, Specific Qualification Standards, of the USQS applies to Appointed Actuaries, but does not apply to Illustration Actuaries. Appointed Actuaries would typically consider a broader perspective, including the adequacy of reserves for the entire company, often including multiple products. Illustration Actuaries are required to understand the life insurance products for which illustrated scales are being certified and would not necessarily have the broad knowledge of statutory reserves and assets that the Appointed Actuary would.

A. Policy Forms~~, and~~ Coverages, and Features

The Illustration Actuary must be able to assess the effect of insurance coverages and changes to experience factors and NGEs on the ~~illustrated~~ scales being used and certified. The Illustration Actuary must understand the types of insurable exposures and related insurance products covered by Model 582 for which the ~~i~~Illustration~~s~~ Actuary ~~that are being~~is certify~~ied~~ng.

Examples of Individual and certain Group Life Insurance and features with potential NGEs include:

1. Whole Life, with annual or limited payment periods
2. Universal Life, with or without secondary guarantees
    a. Fixed interest rate credits
    b. Indexed interest rate credits
3. Term Insurance
    a. Annually renewable term
    b. Term with certain level period
4. Single life and joint life policies
5. Riders attached to the above policies such as
    a. Accidental death benefit
    b. Waiver of Premium
    c. Term insurance on the life of
        i. The insured
        ii. Spouse
        iii. Child
    d. Critical illness benefits
    e. Chronic illness benefits
    f. Accelerated terminal illness benefits
    g. Return of Premium
6. Policies created due to nonforfeiture values

Commented [DM3]: Because the list below contained items we did not feel was related to a policy form or coverage (ex. Participating dividend calculation), we added "features" to help make the list understandable.

Commented [DM4]: Because the illustration actuary certifies the DCS and illustrated scales, but needs to understand the impact of NGEs on the currently payable scale, we genericized.

Commented [DM5]: We wanted to make it clear that only the scales for products that are within the scope of the Model and for which the IA is certifying should be required. We don't feel the IA should know all policy forms and coverages if they are not part of the what the IA is certifying.

Commented [DM6]: Not all forms/coverages have to have NGEs

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Commented [DM7]: Add Long Term care - or perhaps bundle as living benefits such as terminal illness, critical illness, chronic illness or long term care?

7. Supplemental Benefits, as defined by law

8. Participating dividend calculations

B. Law, Statutes, Regulations, and Actuarial Guidelines

The Illustration Actuary must be able to assess the effect of the legal environment on the scales of illustrated NGEs for which the Illustration Actuary is certifying, along with the associated risks and uncertainties. The Illustration Actuary must understand applicable relevant U.S. and state insurance law, regulatory authority, and regulations, which could includeing:

1. Insurance law with respect to its impact on Life and or Fraternal insurers.

2. U.S. federal and state laws and regulations that pertain to the Illustration Actuary's actuarial services.

3. Relevant state specific laws, regulations, regulatory authority and rules regarding the illustration of life insurance NGEs.

4. Familiarity with all applicable statutory Actuarial Guidelines related to the illustrations for which the Illustration Actuary is are being certifyiedng, and

5. Federal tax law, as it applies to both companies and life insurance policies.

C. Principles of Insurance and Underwriting Risk Selection

The Illustration Actuary must be able to assess the effect of underwriting and marketing, risk selection, and changes therein on the illustrated scales for which the Illustration Actuary is certifying, along with the associated risks and uncertainties. The Illustration Actuary must also be familiar with insurance company management of any NGEs and or participating dividends.

1. Various types of underwriting for each of the coverages and features described in Section A, Policy Forms and Coverages above, including differences between full underwriting, accelerated underwriting, simplified issue, and guaranteed issue.

2. Concept of insurable risk.

3. Product characteristics giving theallowing for insured optionality to select against the insurerantiselection.

4. Various types of marketing and distribution methods for each of these coverages, as well as the differences in underwriting and/or policyholder behavior that may be associated with each.

5. Impact of management actions, possibly related to NGEs, which may impact Policyholder Behavior (PHB).

6. Effect of investment market changes, competition, and other economic factors on PHB.

D. Development and Use of Experience Factors

The Illustration Actuary must understand and apply financial models that utilize mortality, expense, investment income, persistency, tax, and other experience factors in evaluating whether the disciplined

Commented [DM8]: Someone working at a non-fraternal should not have to know fraternal laws and vice versa.

Commented [DM9]: This statement feels redundant with the stem. Is it necessary?

Commented [DM10]: Again, trying to emphasize this only applies if there something applicable to the policy forms the IA is certifying. For example, the IA may not need to be familiar with AG 49 if there are no indexed products being certified.

Commented [DM11]: We felt underwriting has a specific area of practice associated with it while risk selection was more in line with the skill and ASOP 12 concepts of risk classification.

Commented [DM12]: Redundant with E. other considerations below

current scale is in conformity with Actuarial Standard of Practice (ASOP) No. 24, ~~Compliance with the~~ NAIC Life Insurance Illustrations Model Regulation~~s~~, and that the illustrated scales meet the requirements of the Model. The Illustration Actuary must also understand the company's products, taxes, assets, internal operations, external environment, and relevant changes therein. The Illustration Actuary must be knowledgeable of the methods of analysis used and should have a strong understanding of modeling techniques, modeling options, experience studies, and interpretation of results.

Commented [DM13]: Name of the ASOP has changed.

The actuary must be familiar with the following:

1. The insurer's NGE framework for crediting rates, index parameters, cost of insurance charges, expense and rider charges, etc.

2. Sources of actual experience, such as company experience, industry experience, population mortality/morbidity, etc. used in setting experience factors that reasonably reflect recent actual experience for a policy form.

3. The insurer's investment income experience, asset portfolio, allocation of investment income to policies, default costs, investment expenses, costs of hedging index parameters, characteristics of underlying indices, and business and economic cycles.

4. The insurer's experience for mortality, morbidity, and policyholder behaviors such as: ~~experience, such as~~

Commented [DM14]: We were trying to be clear that the list only applies to policyholder behavior. Perhaps PHB should be a separate experience item.

   a. Premium payments

   b. Surrenders (full or partial)

   c. Lapses

   d. Policy loans

   e. Face amount changes

   f. Fund transfers

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5. The insurer's expense experience, allocation of overhead practices, marginal vs. fully allocated expenses, average policy size, ~~and~~ sales volume assumptions for policy forms, and any significant nonrecurring costs

6. The insurer's method of allocating taxes, impact of taxes by duration, investment taxes, premium taxes, employment taxes, and income taxes

Commented [DM15]: This particular tax did not seem as relevant to IA.

7. Consistency between and any interdependencies between different types of experience factors

8. Applicable actuarial guidelines.

~~**E. Other Considerations**~~

~~The Illustration Actuary should understand how management actions could impact policyholder behavior.~~

Commented [DM16]: We struck this because it was redundant with C.5 above.

F. Professionalism and Business Skills

The Illustration Actuary must have professional and business skills to enable the Illustration Actuary to perform the required actuarial services in an ethical and professional manner that upholds the reputation of the actuarial profession. The Illustration Actuary must know and adhere to the Code of Professional Conduct, as well as applicable ASOPs and must meet the USQS. The Illustration Actuary must have the professional and business skills to manage the tasks, make informed decisions, communicate effectively with users of the actuary's work products, resolve disagreements, and seek guidance as necessary.

1. Code of Conduct: Familiarity with the Code of Conduct and its application in professional scenarios.

2. USQS: Profound understanding of the USQS.

3. ASOPs and Applicability: Mastery of applicable ASOPs and guidelines for their application. The actuary should refer to the Academy's Applicability Guidelines, as well as ASOP No. 24 for help in determining applicable ASOPs.

4. The importance of documentation of work, as discussed in many ASOPs and as required by the Laws and Regulations applicable to the SAO.

The Illustration Actuary should also have familiarity with the relevant Practice Notes from the Academy.

Commented [DM17]: 1-3 are redundant with items in the stem paragraph. Not incorrect, but not a specifically different knowledge statements.

Commented [DM18]: Perhaps this is part of the list of business skills and not needed as a separate line.

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March 3, 2025

Rachel Hemphill
NAIC, Life Actuarial (A) Task Force (LATF)

Re: Latest American Academy of Actuaries (Academy) Knowledge Statement Exposures

Dear Chair Hemphill:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on the recently exposed Knowledge Statements for Illustrated and Appointed Actuaries which were drafted by the Academy at the request of LATF. While ACLI is generally supportive of this latest set of knowledge statements, we would like there to be some discussion and consideration of three primary concerns that industry identified during our review process (two related to the draft Illustration statements and another related to the Appointed statements). Our feedback is sorted by exposure below:

Illustration Actuary Knowledge Statements -

ACLI believes that sections A through C were clear that the requirements were limited to the illustration scales to which the Illustration Actuary was certifying. One might then infer that this also applies to parts D through E, but the wording is less clear, which means it could be interpreted differently. The primary concern is that we wouldn't want the Illustration Actuary to be required to have knowledge that goes beyond the scope of their certification. To help ensure that scope is appropriate, we offer the following suggestions:

A. Development of Experience Factors
The Illustration Actuary must understand and apply financial models that utilize mortality, expense, investment income, persistency, tax and other experience factors in evaluating whether the disciplined current scale is in conformity with Actuarial Standard of Practice (ASOP) No. 24, Compliance with the NAIC Life Insurance Illustrations Model Regulations, and the illustrated scales meet the requirements of the Model. The Illustration Actuary must also understand the company's products, taxes, assets, internal operations, external environment, and relevant changes therein

that impact the illustrated scales to which the Illustration Actuary is certifying. The Illustration Actuary must be knowledgeable of the methods of analysis used and should have a strong understanding of modeling techniques, modeling options, experience studies, and interpretation of results.

B. Other Considerations
The Illustration Actuary should understand how management actions could impact policyholder behavior related to the illustrated scales to which the Illustration Actuary is certifying.

More conceptually, the Standard Valuation Law contains the following statement related to the actuarial opinion provided by the Appointed actuary:

Section 3.B.(4).(f): "Except in cases of fraud or willful misconduct, the appointed actuary shall not be liable for damages to any person (other than the insurance company and the commissioner) for any act, error, omission, decision or conduct with respect to the appointed actuary's opinion."

The item that was raised in our discussions is whether a similar statement should be added for the opinions of the PBR and Illustration actuaries? Given the desire to add these knowledge statements for various actuaries giving opinions required by regulation, we felt that it would be appropriate to give PBR and Illustration actuaries the same level of legal protection given to Appointed actuaries.

Appointed Actuary Knowledge Statements –

We would like to suggest that the document explicitly state that the appointed actuary can rely on other actuarial and non-actuarial experts. This reliance is crucial for ensuring comprehensive and accurate actuarial opinions. VM-30 explicitly allows the appointed actuary to rely upon other experts for data, assumptions, projections, and analysis, as well as to rely on memoranda prepared and signed by other qualified actuaries. Explicitly recognizing reliance on others in the knowledge statement will provide clarity and ensure consistency with regulation.

Thank you once again for the consideration of our comments and we look forward to discussion at a future session of LATF.

Sincerely,

cc: Scott O'Neal, NAIC