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AMERICAN ACADEMY of ACTUARIES

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January 27, 2022

Mr. Mike Boerner  
Chair, Life Actuarial (A) Task Force (LATF)  
National Association of Insurance Commissioners

Re: Second exposure draft of concept and questions on a proposal for an actuarial guideline on asset adequacy testing focusing on the modeling of complex or high-yielding assets.

Dear Mr. Boerner,

The Asset Modeling and Reporting Task Force of the American Academy of Actuaries<sup>1</sup> (the Task Force) is pleased to provide the following comments on the second exposure of concept and questions on a proposal for an actuarial guideline on asset adequacy testing (AAT), which reads as follows:

*Regarding the concept of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing:*

- *Provide comments on the types of documentation that would be helpful to be provided in an asset adequacy testing memorandum to address the various risks associated with complex assets.*
- *Provide comments on the types of constraints that may be helpful to address concerns regarding non-uniform practices associated with modeling of complex assets in asset adequacy testing to ensure appropriate addressing of all key risks.*
- *Provide comments on the role of the Appointed Actuary in a case, for example, where the life insurer has experienced substantial increase in the complexity of assets, potentially supporting actuarial reserves.*

The Task Force's previous [comment letter](#) identified several actuarial standards of practice (ASOPs) that currently exist for actuaries when modeling complex or high-yielding assets in AAT. The Task Force is expanding upon its first letter in response to the additional context Fred Andersen presented at the 12/8/2021 LATF meeting.

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<sup>1</sup> The American Academy of Actuaries is a 19,500-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.

Complex and high-yielding assets can be beneficial to the insurance industry if the assets' exposure and assumptions are appropriately disclosed and their risks are appropriately understood and modeled. While ASOPs and existing statutory guidance currently apply to actuaries when modeling complex or high-yielding assets in AAT, additional disclosures and principle-based guidance would provide regulators with sufficient information to evaluate how well such guidance has been followed. Therefore, the Task Force suggests that additional disclosures and perhaps principle-based guidance may be warranted. However, the Task Force does not recommend implementing constraints to discourage investment in such assets.

For the implementation of these additional disclosures and principle-based guidance, the Task Force suggests amending the 2023 Valuation Manual via an amendment proposal form (APF) in the first half of this year and referencing the APF as appropriate guidance for year-end 2022 AAT work. Given that APFs require new disclosures and demonstrations, states could "early adopt" them because APFs are considered informational. Thus, regulators could adopt the additional disclosures and principle-based guidance for year-end 2022 AAT work without the need for an actuarial guideline. This would not be true if an APF also contain prescriptions or constraints.

One benefit for regulators from following this approach would be comparisons of assumptions between VM-30 for AAT and VM-31 for principle-based reserving (PBR) modeling if disclosure requirements are added to VM-30. The Task Force also notes that there could be benefits to adding similar disclosures to VM-G, so that board members and senior management (i.e., non-actuaries) would be responsible for items such as asset assumptions, asset valuations, reasonableness of the affiliated advisory firm compensation, and performance fees related to the actual returns of the assets themselves.

Please see Attachment A for more specific comments on the eight areas of concern mentioned in Fred Andersen's presentation at the 12/8/2021 LATF meeting.

Thank you for your consideration of these comments. Please contact Academy life policy analyst Khloe Greenwood ([greenwood@actuary.org](mailto:greenwood@actuary.org)) with any questions.

Jason Kehrberg, MAAA, FSA  
Chairperson, Asset Modeling and Reporting Task Force  
American Academy of Actuaries

## Attachment A—Specific comments on eight areas of concern mentioned in Fred Andersen’s presentation at the 12/8/2021 LATF meeting

### 1. Inflated net yields

With regards to inflated net yields, the Task Force notes that additional LATF guidance would be appropriate regarding considerations an actuary would need to address for modeling assets with net yields that materially exceed those of traditional insurance company investments (such as investment-grade issuer obligations with fixed payment streams, or structured assets purchased from affiliates). The Task Force recommends that the guidance include principle-based requirements for recognition of the risks associated with these higher-yielding assets, which would be applicable when an actuary is setting yield or total return assumptions on such assets. The Task Force recommends that risks include default risk, equity risk, prepayment variability (i.e., from residential mortgage-backed securities (RMBS) as well as callable bonds), extension risk (i.e., also for RMBS as well as cash flow waterfalls of subordinate tranches in non-agency structured securities), complexity of cash flows (e.g., structured notes), and illiquidity risk. Examples of appropriate principle-based guidance are listed below:

- a. Including all material risks in the asset modeling (including the related asset liability management [ALM] impacts, for example the risk of selling other assets or borrowing at high rates if illiquid assets can’t be sold to meet policyholder obligations)
- b. Considering specific, relevant, and credible historical experience for the higher-yielding assets in setting assumptions related to the asset risks
- c. Using appropriate industry data, adjusted for the asset characteristics, when credible experience does not exist
- d. Increasing margins for uncertainty in instances in which there is limited historical data, where the historical data is inconsistent, or where there is reason to believe most recent historical experience is not reliable
- e. Considering the asset underwriting in determining appropriate assumptions for default
- f. Considering the underlying assets (e.g., debt instruments, securitization structure) and timing of expected payments when modeling structured securities
- g. Using modeling approaches that capture asset payment uncertainty, such as stress testing and stochastic modeling to set margins for uncertainty and/or in determining reserves that encompass moderately adverse conditions for all risks
- h. Limiting borrowing, both cost and amount, such that it is reasonable under moderately adverse conditions
- i. Considering the illiquidity of these assets and applying appropriate market value haircuts to assets if they must be sold in the future to meet policyholder obligations
- j. Applying the above guidance as appropriate for hypothetical future assets (in other words, applying the above considerations for higher yielding reinvestment assets purchased during the projection as well as actual assets in-force at the start of the projection)

- k. Recognizing that any extra yield also entails extra risk (which aligns in general with efficient markets), and assessing the potential for short-term stress scenarios
- l. Requiring disclosure in the AOM of the above information, including details of the sources of additional yield (i.e., which portion is due to illiquidity, additional default, prepayment, subordinated tranches, etc.)
- m. Recognizing any structural elements that are specific to different investment vehicles (e.g., funding commitments for private equity funds and redemption gates for hedge funds)

## 2. Internal modeling of asset values

With regards to documentation and disclosure, there are many ASOPs that an Appointed Actuary considers when developing an Actuarial Opinion. More specifically, in relation to complex assets, ASOP No. 7, *Analysis of Life, Health, or Property/Casualty Insurer Cash Flows*, clearly states prudent techniques that actuaries should consider when evaluating cashflows including sensitivity to economic factors, reviewing a range of scenarios, sensitivity testing of key factors (which is highlighted again in ASOP No. 55, *Capital Adequacy Assessment*), internal consistency across assumptions, length of projection period, limitations on asset liquidity and quality, cost of maintaining the assets, historical experience and other factors. ASOP No. 41, *Actuarial Communications*, specifically requires an actuary to communicate the extent of reliance and responsibility on others.

With regards to the role of an Appointed Actuary, other useful guidance for Appointed Actuaries to consider with respect to evaluating complex assets include:

- a. ASOP No. 22, *Statements of Opinion Based on Asset Adequacy Analysis by Actuaries for Life or Health Insurers*, provides guidance with respect to reliance on others for supporting analysis. It provides that when practicable, the actuary should review the analysis for reasonability and consistency.
- b. ASOP No. 56, *Modeling*, indicates that “the actuary should assess whether the structure of the model is appropriate for the intended purpose.” The Reliance on Experts section further provides that the actuary may consider the extent to which the model has been reviewed or validated by experts in the applicable field including known material differences of opinion among experts. It also specifically provides for considering a review by another qualified professional.
- c. The applicable asset adequacy actuarial practice notes also offer further industry practice, including purchasing software from multiple vendors and using independent checking spreadsheets. While this guidance is not binding, it provides helpful educational material for actuaries.
- d. In conclusion, when using a model, there is already substantial practice for an appointed actuary and ASOP No. 56 specifically provides for considering a review by another qualified professional.

With regards to constraints, if insurance regulators determine that more constraints are necessary for the valuation of complex illiquid assets, then the Task Force suggests refining the definition of

“complex and illiquid assets” to follow consistent classifications already established under Fair Value Financial Accounting Standard (FAS) 157 (Accounting Standards Codification (ASC) 820), which classifies assets and liabilities as level 1, 2 and 3. This classification system is more “principles-based” by using the available information to determine the appropriate asset classification level:

- a. Level 1—values are taken from quoted prices in an active market of identical assets and liabilities.
- b. Level 2—values can be based on observable prices of similar assets and liabilities. These inputs are used in valuation techniques when there is no quoted price in an active market or where there is not enough frequency of transactions for identical assets.
- c. Level 3—values require the use of unobservable inputs to determine the value of an asset or liability when there is no active market for identical or similar assets or liabilities and there are no observable inputs. The unobservable inputs require independent judgment regarding market participant assumptions about the assets or liabilities and should use available information that can be reasonably found without incurring undue costs.

This general classification would be consistent with GAAP terminology and cover all types of complex assets that are currently available as well as complex assets that may evolve in the future.

### **3. Collateralized loan obligation (CLO) performance**

With regard to principle-based guidance, to address concerns about recent CLO recovery data, the Task Force recommends language similar to 1 above.

### **4. Investment manager relationships and investment expenses**

With regard to considerations pertaining to investment manager relationships and investment expenses, a key issue is ensuring an unreasonable amount of money is not moving from the insurer to a potentially affiliated investment manager. There are various views on how the money exiting the insurer in different manners could be modeled. For AAT, some insurers set investment expense assumptions in a simplistic manner, not considering the complexity of the asset or costs incurred for asset acquisition and management. The Task Force’s comments focus on the AAT treatment, because the broader considerations are not necessarily actuarial in nature.

Actuaries typically reflect any existing contractual agreements for investment expenses in AAT modeling. If new agreements will be needed during the AAT projection horizon, actuaries develop appropriate assumptions for future investment expenses that are consistent with existing agreements, management practices, asset characteristics/complexity, projected scenarios, etc. This includes reflecting any material provisions at an appropriate level of detail (ASOP No. 56), e.g., not using blended investment expense rates that don’t consider material changes in the projected asset mix. Some actuaries may consider doing a dynamic validation of investment expenses with specific accounting for affiliate transactions.

## 5. Creation of structured assets

When modeling a structured asset, actuaries set considerations consistently regardless of whether a structured asset is securitized by the insurance company's affiliated asset manager, a third-party asset manager, or an independent third party. Structured assets rely on the ability to model the underlying collateral as well as the loss structures/tranches of the investment.

Modeling structured assets purchased from an independent third party requires reliance on readily available market data, which could limit the actuaries' ability to explicitly model the structure. However, if an insurer or its affiliate has direct involvement in the securitization, additional insight into the structure and underlying collateral could be used to enhance the asset model, project cash flows, and measure tail risk.

Here again, the Task Force points to the considerations in item 1 above.

## 6. Offshore/affiliated reinsurance

Insurers that use complex assets that have raised the concerns of regulators and prompted this request for comment may also use reinsurance or securitizations as risk mitigation tools for the products backed by these complex assets. Furthermore, the complex assets themselves may involve securitizations of underlying items. As discussed below, revised ASOP No. 11, *Treatment of Reinsurance or Similar Risk Transfer Programs Involving Life Insurance, Annuities, or Health Benefit Plans in Financial Reports* (effective December 1, 2022) would apply to actuaries involved with these insurers if they are subject to U.S. ASOPs. The Task Force recognizes that some insurers using complex assets may retain all their risks and the assets themselves might not be securitized. In that case, the following comments regarding revised ASOP No. 11 may not apply.

As stated in our summary comments on the first page of this letter, the Task Force suggests using an APF to create new disclosures in VM-20 and VM-31 based on ASOP No. 11 so that regulators can determine how well the requirements in ASOP No. 11 were followed. Additionally, the Task Force recommends education as an adjunct to the ASOP No. 11 guidance and the new disclosures given the new guidance in the recently revised ASOP No. 11.

With that context, the Task Force delves into reinsurance and newly revised ASOP No. 11, which has been adopted by the ASB and will be effective for actuaries' work product produced on or after December 1, 2022. Its requirements would apply whether or not new disclosures take the form of an APF or an actuarial guideline, and whether or not a state chose to "early adopt" new disclosures if effectuated through an APF for the 2023 VM.

Section 1.2 of ASOP No. 11 states, "This standard applies to actuaries when performing actuarial services in connection with preparing, determining, analyzing, or reviewing financial reports for internal or external use that reflect reinsurance or similar risk transfer programs on life insurance, annuities, or health benefit plans." This is clearly consistent with our prior comment letter suggesting that all product lines be in scope (e.g., life, annuities, LTD, LTC).

Section 2.16 broadly defines a Reinsurance Program to not only include formal reinsurance treaties but “similar risk transfer programs” and explicitly mentions securitizations. This clearly provides support for new disclosures where the assets themselves are securitizations of underlying items, but also for insurers that use securitizations rather than reinsurance to transfer portions of the risks, such as selling various tranches to other parties. It also includes insurers that use reinsurance to cede complex asset risks to a reinsurer (or a reinsurer ceding these risks to a retrocessionnaire).

Section 2.6 explicitly lists statutory financial statements, asset adequacy analysis reports, and experience reports as being in scope. This provides justification for adding parallel disclosures about the complex assets in question to both VM-30 and VM-31.

Section 2.17 defines Service Providers as adjunct parties to a reinsurance agreement that provide services integral to the reinsurance agreement. It explicitly lists investment advisors and investment managers as being Service Providers. We recommend that the new disclosures consider not just the investment assumptions and models, but also the role that such advisors or asset managers have as the actuary’s source of investment assumptions, models, and values.

Section 2.11 defines Non-Guaranteed Reinsurance Elements (NGREs) as “Any premium, charge, or benefit within a reinsurance program that affects reinsurance costs or values, [and] is not guaranteed in the reinsurance program.” Investment returns that affect reinsurance costs or values and are not guaranteed would meet the definition of an NGRE.

Section 3.2(a) indicates that the actuary should consider how treaty terms and conditions (including NGREs) impact expected reinsurance cash flows. This is relevant because asset performance can influence modeled cash flows and modeled asset performance depends on the form of the asset assumptions, the values they take, whether they are stochastic or scenario-based, etc.

Section 3.2(b) indicates that the actuary should take into account how activities performed by Service Providers impact reinsurance cash flows, 3.2(g) indicates that the actuary should take into account the impact of incentives and disincentives contained in fees paid to third parties, and 3.2(h) explicitly mentions the actuary taking into account the impact of the investment policy on reinsurance cash flows. Therefore, we suggest disclosures be added on advisor compensation, performance (or lack of performance), and details of the Investment Policy Statement and how it aligns with the assumptions and models to calculate of reserves and perform AAT on those reserves.

Section 3.3(a) requires the actuary consider the impact of reinsurance on the net retained business; 3.3(c) requires the actuary consider the reasonableness, individually and in aggregate, of assumptions regarding the risks associated with the net retained business that are impacted by the existence of a reinsurance program; and 3(d) requires the actuary consider the impact of the reinsurance program on the investment policy of the holder or manager of the assets associated with the net retained business. Together, these section 3.3 requirements may address the concern regulators have with the use of captives and “offshore reinsurance.” ASOP No. 11 requires U.S. actuaries involved with a domestic regulated entity to comply with section 3 for both ceded and

retained reserves and consider how the mere presence of reinsurance or securitizations impact the cash flows that are used to calculate reserves or test their adequacy. The regulator therefore has recourse to the domestic actuary even if some or all risks on a complex asset are transferred out of their jurisdiction, e.g., to an offshore entity outside the U.S. or into the capital markets.

In summary, regardless of whether risk is transferred using reinsurance or securitization, section 2 and section 3 of ASOP No. 11 require actuaries establishing reserves, actuaries involved with the PBR Actuarial Report, and Appointed Actuaries rendering the adequacy opinion reserves to consider the following in their work:

- a. How an investment advisor or manager is compensated and how this might incent them.
- b. The consequences of non-performance or underperformance of the assets or the investment advisor on both the ceded and retained cash flows.
- c. The extent to which asset performance is an NGRE and thus could impact NGEs such as credited rates to insureds, or policyholder behavior through dynamic lapse formulas.

## **7. Trend toward higher-yielding, less liquid assets**

These assets can be difficult to sell, so an important consideration for cash flow testing is whether results rely on an assumption that an illiquid asset can be sold, as well as the amount for which it can be sold. This trend is broad-based but is also currently small relative to the overall investment portfolios of life insurers.

As noted in the Task Force's summary statements above, with appropriate additional disclosures and principle-based guidance, the Task Force notes that insurers can effectively use complex and high-yielding assets if actuaries follow the relevant requirements in the ASOPs. As such, the Task Force does not recommend implementing constraints to discourage investment in such assets given the advantages such assets can offer *if their exposure and assumptions are appropriately disclosed, and their risks, including liquidity, are appropriately understood, and modeled*. However, the Task Force also notes that what might have been a good AAT assumption when such assets comprise a few percent of total starting assets may need to be rethought as such assets become a more material percentage of starting assets, e.g., a large position in complex and high-yielding assets may warrant more sophisticated modeling and/or more granular assumptions.

Here again, the Task Force points to the considerations in item 1 above.

## 8. Actuarial assumption impact

The use of aggressive actuarial assumptions is not supported or in accordance with actuarial requirements for asset adequacy analysis. ASOP No. 22, for example, requires the actuary to consider whether the reserves and other liabilities being tested are adequate under moderately adverse conditions. If the underlying assumptions are aggressive then this would not meet the moderately adverse conditions requirement. Additionally, ASOP No. 22 was recently modified (with an effective date of June 2022) to provide more clarity in certain areas. A notable modification was the addition of specific guidance on trends in assumptions as well as margins for adverse deviation. If actuaries deviate from these requirements, then they must disclose the deviation along with the rationale for such deviation. Actuaries are also required to provide adequate disclosure of the assumptions such that one could determine their reasonability (e.g., ASOP No. 22, ASOP No. 41, and VM-30).

Regarding the reference to borrowing, it's important that actuaries model the company's actual investment and disinvestment policy as best they can as it is the cash flows from the assets that pay future claims and expenses. Models are simplified representations of processes, and an exact replication of the actual investment policy may be difficult to achieve. This may be due to model limitations and/or modeling requirements (e.g., new business cash flows are not modeled in asset adequacy analysis but will impact future cash flows). Borrowing may be modeled when it is part of the company investment policy or, for example, to limit excessive asset sales due to model limitations. In any event, consideration of the amount of borrowing modeled, the underlying borrowing rate, and the documentation and disclosure of such is addressed in various actuarial and regulatory documents:

- a. ASOP No. 7 provides that to the extent the insurer's investment strategy contemplates borrowing to cover negative cash flows, the actuary should consider whether the funds borrowed pursuant to the strategy are reasonable in relation to the insurer's existing indebtedness, borrowing capacity, and cost of borrowing funds.
- b. Under ASOP No. 56, the actuary should make reasonable efforts to confirm that the model structure, data, assumptions, governance and controls, and model testing and output validation are consistent with the intended purpose for which it is being used. In asset adequacy analysis/cash flow testing, this includes the projection of future asset cash flows in a manner representative of the actual investment policy. This includes the impact of the modeling of borrowing.
- c. The 2017 Academy practice note [Asset Adequacy Analysis](#) discusses modeling practices when negative cash flow occurs. Small negative cash flow may be covered by short-term borrowing at the prevailing short-term rate applicable to the company. In instances of large amounts of borrowing, the actuary would typically check to see whether this is creating excessive leverage. If so, the investment and disinvestment assumptions would be changed or in some instances, the borrowing rate would be changed to the average reinvestment rate.
- d. Although the following items do not directly apply to asset adequacy analysis, they further support the modeling of reasonable borrowing assumptions.

- RBC Instructions for C-3 Phase I—If negative cash flow is modeled by borrowing, the actuary needs to make sure that the amount and cost of borrowing are reasonable for that particular C-3 scenario.
- VM-21—The cost of borrowing cannot be lower than the rate at which positive cash flows are reinvested, although a Guidance Note indicates that this language is not intended to impose a literal requirement, but rather to prevent excessively optimistic borrowing assumptions. Note that VM-20 also has language regarding borrowing but it is less prescriptive and points to the company’s investment policy and cost of borrowing.

In summary, there are numerous requirements regarding assumptions that apply to asset adequacy analysis. Actuaries adhering to such requirements typically would not incorporate aggressive actuarial assumptions in asset adequacy analysis.

If the NAIC determines the current requirements are not specific enough to foster adherence, the Task Force suggests adding specific disclosure to VM-30, which documents the adherence of assumptions to the various requirements and points to considerations listed in item 1 above to help address any additional regulatory concerns, e.g., related to the modeling of borrowing.