

Actuarial Guideline AAT – 3rd Exposure

APPLICATION OF THE VALUATION MANUAL FOR TESTING THE ADEQUACY OF LIFE INSURER RESERVES

Background

The *NAIC Valuation Manual (VM-30)* contains actuarial opinion and supporting actuarial memorandum requirements, including requirements for asset adequacy analysis. Regulators have observed a lack of uniform practice in the implementation of asset adequacy analysis. The variety of practice in incorporating the risk of complex assets into testing does not provide regulators comfort as to reserve adequacy. Examples of complex assets are structured securities, including asset-backed securities and collateralized loan obligations, as well as assets originated by the company or affiliated or contracted entity. An initial increase of this activity has been noted in support of general account annuity blocks; however, recent activity was noted in other life insurer blocks.

This Guideline is intended to provide uniform guidance and clarification of requirements for the appropriate support of certain assumptions for asset adequacy analysis performed by life insurers. In particular, this Guideline:

- (1) Helps identify reserve adequacy and claims-paying ability in moderately adverse conditions, including conditions negatively impacting cash flows from complex assets;
- (2) Clarifies elements to consider in establishing margins on asset-related assumptions;
- (3) Ensures recognition that higher expected gross returns from assets are, to some extent, associated with higher risk, and that assumptions fit reasonably within the risk-return spectrum;
- (4) Requires sensitivity testing regarding complex assets supporting life insurer business;
- (5) Identifies expectations in practice regarding the valuation of complex assets within asset adequacy analysis;
- ~~(6) Establishes a process for researching and monitoring the risks associated with complex assets;~~
- (7) Reflects that while complex assets tend to have higher uncertainty regarding timing and amount of cash flows than more traditional investments, because complex assets are difficult to classify, and the regulatory concern is regarding the projected net yields and cash flows from those assets, the focus of the analysis requirements will be on assets categorized as high-yielding; and
- (8) Requires additional documentation of investment fee income relationships with affiliated entities or entities close to the company.

Text

1. Effective Date

This Guideline shall be effective for asset adequacy analysis of the reserves reported in the December 31, 2022 Annual Statement and for the asset adequacy analysis of the reserves reported in all subsequent Annual Statements.

Note: It is anticipated that the requirements contained in this Guideline will be incorporated into VM-30 at a future date, effective for a future valuation year. This Guideline will cease to apply to annual statutory financial statements when the corresponding VM-30 requirements become effective.

2. Scope

This Guideline shall apply to all life insurers with:

- A. Over \$5 billion of general account actuarial reserves (from Exhibits 5, 6, 7, and 8 of the annual statement) and non-unitized separate account assets or
- B. Over \$100 million of general account actuarial reserves (from Exhibits 5, 6, 7, and 8 of the annual statement) and non-unitized separate account assets and over 5% of supporting assets (selected for asset adequacy analysis) in the category of Projected High Net Yield Assets, as defined in Section 3.F.

{Drafting note – proposed language would be appreciated on the company scope; this exposure reflects a lower floor in 2B and that in Sections 4-5, only 4.a.i. applies to assets that are also not Projected High Net Yield Assets}

Actuarial reserve amounts are included in the amounts in A and B whether directly written or assumed through reinsurance and are determined before any reinsurance ceded credit.

The Guideline applies to assets supporting liabilities tested in the asset adequacy analysis except it does not apply to unitized separate account assets or policy/contract loans.

3. Definitions

- A. Equity-like Instrument. Assets that include the following:
 - i. Any assets that, for purposes of risk-based capital C-1 reporting, is in the category of common stock, i.e., has a 30% or higher risk-based capital charge.
 - ii. Any asset that is captured on Schedule A or Schedule BA of the Annual Statement.
 - iii. Bond funds.
- B. Fair Value. The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, consistent with methodology of fair value, as reported in the Annual Statement.
- C. Net Market Spread. For each asset grouping, shall mean the average spread over ~~zero coupon~~-Treasury bonds that equates a bond's fair value as of the valuation date with its modeled cash flows ~~across an arbitrage free set of stochastic interest rate scenarios~~, less the default assumption used in asset adequacy analysis.

~~—For floating rate bonds, the Net Market Spread shall be calculated as the equivalent spread over Treasuries if the bonds were swapped to a fixed rate, less the default cost assumption used in asset adequacy analysis.~~

Market conventions and other approximations are acceptable for the purposes of this definition.

- D. Investment Grade Net Spread Benchmark. The applicable spread found in Appendix I using the weighted average life (WAL) of the associated non-Equity-like Instrument.
- E. Guideline Excess Spread. The net spread derived by subtracting the Investment Grade Net Spread Benchmark from the Net Market Spread for non-Equity-like Instruments. Investment expenses shall be excluded from this calculation.

F. Projected High Net Yield Assets. Currently held or reinvestment assets that are either:

- i. An Equity-like Instrument assumed to have higher value at projection year 10 or later than under an assumption of annual total returns, before the deduction of investment expenses, of 4% for the first 10 projection years after the valuation date followed by 5% for projection year 11 and after. Aggregation shall be done at a level of granularity that is consistent with or more granular than how the assets are grouped, i.e., compressed, in the asset adequacy analysis model, or
- ii. Assets other than Equity-like Instruments where the assumed Guideline Excess Spread is higher than zero. In addition:
 - (a) Aggregation of the comparison between the assumed Net Market Spread from each asset and the Investment Grade Net Spread Benchmark shall be done at a level of granularity that is consistent with or more granular than how the assets are grouped, i.e., compressed, in the asset adequacy analysis model.
 - (b) For applicable assets that do not have an explicit WAL or term to maturity, the company shall disclose the method used to determine the appropriate WAL used for comparing to the Investment Grade Net Spread Benchmark.
 - (c) For purposes of the comparison between assumed Net Market Spread from each asset and the Investment Grade Net Spread Benchmark, investment expenses shall be excluded.

G. Non-complex Assets. Assets including the following:

- i. Cash or cash equivalents and
- ii. Treasuries and agency bonds.
- iii. Fixed and floating rate Public corporate bonds and floaters
- iv. Real Estate
- v. Direct Mortgage Loans (Commercial, Agricultural, Residential)
- vi. Mortgage Pass-Through Securities

{Drafting note: comments are welcome on the inclusion or exclusion of public corporate bonds and floaters}

Non-complex Assets are excluded from the scope of requirements in sSections 4.BA.ii, 4.B, 4.C, 4.D, 4.E, 4.F, 4.G, though and 5.

4. Asset Adequacy Considerations and Documentation Expectations

A. **Net return and risk documentation.**

- i. For all assets, either currently held or in assumed reinvestments, provide:
 - (a) Identification of the assumed gross asset yield and the key components (for example, default and investment expenses) deducted to arrive at the assumed net asset yield.
 - (b) Explanation of any future reinvestment strategy assumptions that materially differ from current practices ~~and experience~~.

ii. For Projected High Net Yield Assets, either currently held or in assumed reinvestments, provide:

- (a) A detailed explanation describing the ~~relationship between the extent to which higher expected gross returns from these assets and the are associated with higher risk~~. It shall also include, for the aspect of any higher expected gross returns not assumed to be associated with higher risk, an explanation of how overperforming assets with expected returns lying outside the risk-return spectrum can be assumed to persist and be available for reinvestments throughout the projection period in moderately adverse conditions.
- (b) Commentary on how assets ~~with risk -related- factors leading to substantial volatility of returns, as identified as being volatile and impactful~~ through sensitivity testing or other means contain an appropriate margin to reflect ~~the uncertainty in the timing and amounts of asset cash flows- this volatility and impact~~.
- (c) Identification of the extent to which Projected High Net Yield Assets are supporting major product categories, e.g., individual fixed annuities and pension risk transfers.

B. **Model rigor.** Where significant risks associated with complex, ~~and Projected High Net Yield Assets assets~~ are not adequately captured with traditional modeling techniques associated with simple assets like corporate bonds, more rigorous modeling of those risks should occur.

i. Where necessary to adequately reflect the risk, ~~multi-scenario testing of those risks specific to complex assets should be performed.:~~

- (a) ~~Multi-scenario testing of those risks specific to complex assets should be performed.~~ For example, investments that may provide a higher expected return in part due to limited information, niche skill sets, or other factors may require unique scenarios (for instance to adequately capture credit or liquidity risk) to fully encompass potential sources of loss.
- (b) Asset cash flows should be appropriately projected to reflect anticipated liquidity under adverse conditions. If such model aspects are not developed, sufficient additional conservatism to reflect this risk shall be applied.
- (c) To the extent that the process for modeling or otherwise evaluating the risks is complex, and the potential for disconnect between reality and modeling increases, an additional margin to assumption(s) should be applied. Any such margin shall be applied in the direction of asset adequacy analysis results being less favorable.

~~(d) Note that a robust conditional tail expectation calculation considering all key risks specific to complex assets would likely show that tail losses (from low probability, high impact events) affect asset adequacy results.~~

ii. A company may use simplifications, approximations, and modeling efficiency techniques if the company can demonstrate that the use of such techniques does not make asset adequacy analysis results more favorable. These techniques may be less appropriate if the amount of complex, high-yielding assets becomes a higher percentage of total assets.

~~{Guidance Note: Actuarial Standards of Practice (ASOPs), including ASOP No. 7 and No. 56 contain additional guidance on the use of models in the analysis of cash flows-.}~~

~~iii. Actuarial Standards of Practice (ASOPs), including ASOP No. 7 and No. 56 contain additional guidance on the use of models in the analysis of cash flows.~~

C. **Fair Value determination.** In asset adequacy analysis, when an asset is projected to be available for sale, a Fair Value of that asset is established, based on market information. Fair Value should only be determined internally (by the insurance or investment management company) when the market-based value of the asset or similar asset cannot be obtained.

- i. When the Fair Value of a material portion of supporting assets is determined internally, the actuarial memorandum shall contain a step-by-step description of the approach used to calculate the Fair Value of such assets.
- ii. Provide the total Fair Value of assets that have values determined internally.
- iii. When the Fair Value of a material portion of assets is determined internally, a sensitivity test should be performed (and the impact on asset adequacy analysis results presented) assuming a haircut to internally derived Fair Values that the company deems reasonable given the commensurate level of anticipated uncertainty.

~~iv. With respect to non-publicly traded assets originated by the company, within the company's group, or within an entity closely tied to a company's group (inclusive of the company's investment manager), practices to help ensure accurate valuation of those assets should be documented in the actuarial memorandum. Also, provide the total Fair Value of such assets and disclose in detail how the following are appropriately reflected in the net cash flows:~~

- ~~(a) Contractual agreements in place between such entities.~~
- ~~(b) Any measures taken to ensure that the valuation of such assets is appropriate and accurate.~~
- ~~(c) Revenue sharing, e.g., performance fees, between the entity responsible for providing investment or other types of services and the insurer, if applicable.~~

~~Also, assumed net cash flows from assets should be net of all explicit or implicit fees or expenses, such as origination fees, as well as reflective of other asset-related risks including credit risk, illiquidity risk, and other market risks.~~

D. Non-publicly traded assets. For non-publicly traded assets originated by the company, within the company's group, or within an entity closely tied to a company's group (inclusive of the company's investment manager), provide the following:

- i. Document practices to help ensure accurate valuation of those assets
- ii. Provide the total Fair Value of such assets
- iii. To the extent the contractual agreement affects the investment income revenue streams included in the asset adequacy testing, disclose in detail how applicable contractual agreements and revenue sharing, e.g., performance fees, between the entity responsible for providing investment or other types of services and the insurer are reflected in the net cash flows. Also, assumed net cash flows from assets should be net of all explicit or implicit fees or expenses, such as origination fees, as well as reflective of other asset-related risks including credit risk, illiquidity risk, and other market risks.

DE. Investments expenses (fees). Assumed investment expenses, whether paid to an external asset manager or to internal investment management staff, as well as additional expenses that are directly attributable to the specific investments, should be commensurate with the expected expenses complexity of the assets.

~~E. Trends.~~ The actuarial memorandum should contain a detailed description of research and monitoring related to trends impacting risks associated with the insurer's complex assets or industry wide or market wide assets of similar type.

- F. **Reinsurance modeling.** Related to reinsurance, relevant communications and disclosures from ~~ASOP No. 11~~, for instance commentary on collectability and counterparty risk, should be presented in the memorandum.

{Guidance note: Section 4.F is consistent with standard laid out in ASOP No. 11 - Reinsurance Involving Life Insurance, Annuities, or Health Benefit Plans in Financial Reports.}

- G. **Borrowing.** Please identify if any borrowing is modeled besides to address very short-term liquidity needs. Also, verify borrowing and reinvestment rates to ensure that projections are not materially benefiting from arbitrage advantages.

5. Sensitivity Tests and Attribution Analysis related to Assumptions on Projected High Net Yield Assets

A. Sensitivity testing

- i. ~~For the year-end 2022 and subsequent VM-30 actuarial memoranda, p~~Perform and disclose, separately for (a) and (b), the asset adequacy analysis results from the following sensitivity tests:

- (a) For reinvestment assets other than Equity-like Instruments, assume the Net Market Spreads (before deduction of investment expenses) for Projected High Net Yield Assets do not exceed the Investment Grade Net Spread Benchmark and apply the test to a baseline of a level Treasury rate scenario.

For the purposes of limiting the Net Market Spreads at the Investment Grade Net Spread Benchmark, Projected High Net Yield Assets may be aggregated together but shall not include any assets that are not Projected High Net Yield Assets.

- (b) For reinvestment assets that are Equity-like Instruments, assume annual total returns, before the deduction of investment expenses, of 4% for the first 10 projection years after the valuation date followed by 5% for projection year 11 and after.

- ii. Strict technical compliance for each asset may not be practical for reasons such as model limitations. Professional judgment should be applied to produce sensitivity testing results that are consistent with the spirit of the test. A variety of alternative methods may be acceptable. Appropriate explanation and justification should be provided for the method that was employed.

- iii. Sensitivity testing for the purpose of this Guideline does not reflect commentary on moderately adverse conditions but the volatility and impact demonstrated from the testing should be contemplated in Section 4.A.ii.(b) considerations.

- B. For Projected High Net Yield Assets for non-Equity-like Instruments either currently held or in assumed reinvestments, perform and disclose the following attribution analysis steps at the asset type level defined in Section 6.c.i.:

- i. State the assumed Guideline Excess Spread.
- ii. Estimate the proportion of the Guideline Excess Spread attributable to the following factors:
- (a) Credit risk
 - (b) Illiquidity risk
 - (c) Deviations of current spreads from long-term spreads defined in Appendix I

(d) Volatility and other risks (identify and describe these risks in detail)

~~iii. For each of the factors contributing to the Guideline Excess Spread, explain why the factor is not assumed to contribute to additional losses (tail or otherwise) related to the risks.~~

~~iiiv. Where appropriate, apply judgment and provide commentary on the supporting rationale of how the expected excess return in excess of the Investment Grade Net Spread Benchmark is estimated across the various risk components.~~

~~{Guidance note: a best-efforts approach (as opposed to perfection) is expected for the year-end 2022 attribution analysis}~~

6. Reporting, Review, and Templates

~~{Guidance Note: The NAIC Valuation Analysis (E) Working Group (VAWG) shall serve as a resource in the targeted review of asset adequacy analysis related to modeling of business supported with Projected High Net Yield Assets. VAWG shall provide periodic reports identifying outliers and concerns regarding the analysis to help inform regulators on the effectiveness of the Guideline in meeting the eight objectives stated in the Background section.}~~

A. The documentation, sensitivity test results, and attribution analysis referenced above are to be incorporated as a separate, easily identifiable section of the actuarial memorandum required by VM-30 or as a standalone document, with a due date ~~of to be established between March 1 and May 1~~ following the applicable valuation date. ~~The domiciliary commissioner may approve a later due date for companies seeking a hardship extension. The separate section or standalone document shall be available to other state insurance commissioners in which the company is licensed upon request to the company.~~ The confidentiality and information provisions in ~~in state adoptions of NAIC Model 820 VM-30~~ regarding the actuarial memorandum are applicable to the separate section or standalone document required by this Guideline.

B. ~~The NAIC Valuation Analysis (E) Working Group (VAWG) shall serve as a resource in the targeted review of asset adequacy analysis related to modeling of business supported with Projected High Net Yield Assets. VAWG shall provide periodic reports identifying outliers and concerns regarding the analysis to help inform regulators on the effectiveness of the Guideline in meeting the eight objectives stated in the Background section.~~

C. Sample ~~memorandum section aspects /~~ templates (to be completed) –

i. Asset types

- ~~(a) Treasuries and Agencies~~
- ~~(b) Public Corporate Bonds~~
- ~~(c) Convertible Bonds~~
- ~~(d) Floating Rate Notes~~
- ~~(e) Municipal Bonds~~
- ~~(f) Other Private Bonds~~
- ~~(g) Preferred Stock~~
- ~~(h) Agency Mortgage Backed Securities or Collateralized Mortgage Obligations~~
- ~~(i) Non Agency Commercial Mortgage Backed Securities~~
- ~~(j) Non Agency Residential Mortgage Backed Securities~~
- ~~(k) Collateralized Loan Obligations~~
- ~~(l) Other Asset Backed Securities~~
- ~~(m) Equities or Equity Like Instruments~~
- ~~(n) Real Estate~~
- ~~(o) Mortgage Loans (Commercial and Residential)~~
- ~~(p) Schedule BA Assets~~
- ~~(q) Derivative Instruments linked to Equity Like Assets~~
- ~~(r) Other Derivative Instruments~~

~~(s) Other Not Covered Above³~~

- ii. Template for the asset summary.
- iii. Template for components of net asset yield for various asset classes, with separate tables to be provided for initial assets and reinvestment assets.
- iv. Template for sensitivity test aspects for fixed-income securities.
- v. Template for sensitivity test results.
- vii. Template for attribution analysis, with separate tables to be provided for initial assets and reinvestment assets.

Appendix I – Investment Grade Net Spread Benchmark

WAL (Weighted Avg Life)	Investment Grade Net Spread Benchmark (in bps)
1-10	170
11-20	175
21-30	185