

American Academy of Actuaries Post-NAIC Update/PBA Webinar

April 22, 2014



Agenda

- **Moderator**

Dave Neve, MAAA, CERA, FSA
Chairperson, American Academy of Actuaries
Financial Soundness/Risk Management Committee

- **NAIC PBR/LATF Update**

Mike Boerner, MAAA, ASA
Director, Texas Department of Insurance
Chair, NAIC Life Actuarial Task Force & EAIWG

- **Kansas Field Test and NAIC Life Risk-Based Capital Working Group Update**

Mark Birdsall, MAAA, FSA, MBA
Chief Actuary, Kansas Insurance Department
Chair, NAIC Life Risk-Based Capital Working Group

- **Practice Note on Life Principle-Based Reserves Under VM-20**

Todd Erkis, FSA, MAAA, CERA
Chairperson, Academy Life Principle-based Reserves Practice Note Work Group



NAIC PBR/LATF Update

Mike Boerner, MAAA, ASA

Director, Actuarial Office, Financial Regulation Division
Texas Department of Insurance

Chair, Life Actuarial (A) Task Force

Chair, PBR Review (EX) Working Group

Chair, Emerging Actuarial Issues (E) WG



TOPICS

- Status of 10 items for LATF to complete before operative date of the Valuation Manual.
- Other LATF PBR-related efforts.
- Non-PBR LATF work.
- PBR Review (EX) Working Group
- Emerging Actuarial Issues (E) Working Group



Complete in Valuation Manual (VM) Prior to Earliest Possible Operative Date of 1/1/2016

1. Complete the 2014 VBT. (Spring 2015)
2. Provide CSO tables based on the 2014 VBT. (Summer 2015)
3. Implement maintenance in line with adopted VM-20 process to annually update asset spreads and default costs in VM-20. (Spring 2014)
4. Develop accounting smoothing mechanism to address reserve volatility. (Summer 2014)
5. Valuation Manual changes needed to support the experience data collection process in Section I of the PBR Implementation Plan. (Summer 2014)
6. Governance revisions to the section in VM-00 regarding the process for updating the Valuation Manual. (Summer 2014)
7. Commercial mortgage default costs. (Spring 2015)
8. Additional small company considerations. (Summer 2014)
9. Review of VM-31 documentation requirements. (Spring 2015)
10. Definition of products included in VM-20 Section 3 (Net Premium Reserve). See parenthetical note in VM-20, Section 3.A.1. (Summer 2014)



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

1. Complete the 2014 VBT. (Spring 2015)
2. Provide CSO tables based on the 2014 VBT. (Summer 2015)

- =====
- Mary Bahna-Nolan, Chairperson, American Academy of Actuaries Life Experience Subcommittee, provided report at the Spring LATF meeting and targets this August to complete the 2014 VBT tables.
 - LATF requested to provide direction regarding margins for the 2014 CSO tables and direction regarding whether to assume an aggregate or the current individual margin approach applicable to PBR mortality margins for the deterministic and stochastic reserve.
 - LATF call this Thursday (4/24/14) will discuss and consider direction responsive to these requests.



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

3. Implement maintenance in line with adopted VM-20 process to annually update asset spreads and default costs in VM-20 (Spring 2014)
 - VM-20 spread tables updated to 9/30/13 adopted at Spring meeting.
 - VM-20 spread tables updated to 12/31/13 to be considered for exposure and subsequent adoption.
 - Default cost table update efforts in progress.
 - New Governance edits in VM-0 address process for these annual updates.



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

4. Develop accounting smoothing mechanism to address reserve volatility (Summer 2014)
 - Possible approach was discussed at Spring meeting.
 - ACLI to review and provide a recommendation.
 - Will coordinate with the Statutory Accounting Principles (E) Working Group.

5. Valuation Manual changes needed to support the experience data collection process in Section I of the PBR Implementation Plan. (Summer 2014)
 - LATF will coordinate changes to VM-50 & 51 with the broader PBR Implementation efforts. A draft for the experience data collection process was discussed at the Spring meeting of the PBR Implementation (EX) Task Force.



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

6. Governance revisions to the section in VM-0 regarding the process for updating the Valuation Manual. (Summer 2014)
 - Governance revisions were exposed for a 45 day comment period at the Spring meeting.
 - Revisions include annual updates of asset spread and default cost tables as a maintenance item and not a change in the Valuation Manual.
 - Revisions also include identifying what are substantive and non-substantive items, minimum exposure periods, and coordination with HATF.

7. Commercial mortgage default costs. (Spring 2015)
 - ACLI to provide a proposal regarding default costs for commercial mortgages to be included in VM-20.



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

8. Additional small company considerations. (Summer 2014)

- LATF exposed for comment to 5/14/14 an ACLI amendment regarding small companies and two others not limited to just small companies.
 - ❑ The first amendment provides conditions to be met for exemption from PBR which includes having less than \$300 million in ordinary life premium (direct plus reins. assumed), belonging to an NAIC group with less than \$600 million in ordinary life premium, having an RBC ratio of at least 450% of the authorized control level, and not having any ULSG policies issued or assumed after the operative date of the Valuation Manual which do not meet the definition of a non-material secondary guarantee ULSG product.
 - ❑ The second amendment allows gross premium reserves from a company's asset adequacy analysis to be used in the Stochastic Exclusion Ratio Test in VM-20, Section 6.A.2.
 - ❑ The third amendment clarifies in VM-20, Section 3, that the net premium reserve using current requirements includes only the basic and not the deficiency reserve given deterministic reserve requirements apply.



Complete in Valuation Manual (VM) Prior to Possible Operative Date of 1/1/2016

9. Review of VM-31 documentation requirements. (Spring 2015)
 - Review VM-31 documentation requirements and adjust as appropriate prior to VM operative date to support reporting and documentation needs without being excessive or duplicative.
 - ACLI to review and provide any recommendations for adjustments.
10. Definition of products included in VM-20 Section 3 (Net Premium Reserve). See parenthetical note in VM-20, Section 3.A.1. (Summer 2014)
 - The parenthetical note calls for definitions of products to be provided regarding Section 3.A.1 that discusses net premium reserve applicability for term and universal life with secondary guarantees.



LATF – Other PBR-Related Efforts

- VM-22 Subgroup update and & Kansas field test (Mark Birdsall will cover field test)
- LATF adopted two VM Amendment Proposal Forms at the Spring meeting:
 - 1) Option to use the Direct Iteration Method to calculate the deterministic reserve.
 - 2) Exemption of Industrial Life Insurance from VM-20.
- LATF will consider two other amendment proposal forms in the near future. One regarding treatment of due premiums and one regarding treatment of pre-tax IMR.
- LATF PBR Implementation charges to provide recommendations regarding PBR actuarial certification and continuing education requirements.
 - John Morris and John Blocher, Academy Committee on Qualifications (COQ), provided a status update at the Spring meeting on their efforts to provide such recommendations to LATF. John Morris believes the actuarial skills for PBR are not unique given roles including those on asset adequacy analysis. COQ representatives stated they would develop a PBR professionalism discussion paper related to these charges; Perry Kupferman, CA DOI, agreed to be the LATF liaison.



LATF – Other PBR-Related Efforts

- Academy Nonforfeiture Modernization Work Group
 - John MacBain, Work Group Chairperson, presented his report at the Spring meeting. The Work Group is considering various approaches to determine nonforfeiture benefits for Guaranteed Lifetime Withdrawal Benefits (GLWBs)
 - Next steps include continued development of the Guaranteed Nonforfeiture Basis (GNFB) factors necessary to determine the nonforfeiture benefit. The Work Group will also provide additional information to support recommendations in the spreadsheet provided for the 2/27/14 LATF call and will provide a report to LATF on considerations involved in determining whether cash surrender values should be mandated as part of the required minimum nonforfeiture values.



LATF – Other Than PBR

■ “E” Committee Referral

- At the Spring meeting the Blanks Working Group exposed LATF Life and Fraternal annual statement instructions for the actuarial opinion that require annual appointed actuary reporting to the Board of Directors or the audit committee regarding the actuarial opinion.
- This is anticipated to be adopted by the Blanks Working Group and applicable for the 2014 year end blanks instructions.

■ Academy AG33 Non-Elective Incidence Task Force

- John Blocher, chair of this Academy task force, discussed edits to AG 33 that preclude use of non-elective incidence rates where not appropriate. An example are incidence rates relating to waiver of surrender charge when there is no surrender charge or no cash surrender value.
- LATF exposed these edits with comments due by May 14.



LATF – Non-PBR Work

■ Index-linked UL Illustrations

- Guidance needed including consistency in time period used for recent history to reflect the index.
- LATF exposed for comment to 5/14/14 an ACLI draft actuarial guideline that includes addressing the time period to be used.

■ C3 Phase II/AG43 (E/A) Subgroup, Chair: Pete Weber

- Subgroup considered issues identified in the June 2010 Oliver Wyman report and is working to pursue case studies on issues, identification of root causes, and testing potential solutions.

■ Academy AOMR Discussion Group

- Tom Campbell has led these discussions and the group has provided a report on the Academy website. A next step is to consider ways to publicize the work of the group as suggested best practices.



LATF – Other Than PBR

- **Contingent Deferred Annuity Subgroup, Chair: Tomasz Serbinowski**
 - Charges: 1) Evaluate AG 43 to determine whether the reserve guidance as it applies for variable annuity guarantees would be deficient for CDAs and provide recommendations as appropriate; and 2) Consider revisions to the Standard Nonforfeiture Law for Individual Deferred Annuities (#805) to specifically exclude CDAs.
 - LATF exposed for comment a submission from ACLI regarding CDA considerations for AG 43. Comments are due by May 14.
- **Indexed-Linked Variable Annuity Subgroup, Chair: Blaine Shepherd**
 - Charge: Provide recommendations to LATF regarding applicability of the NAIC variable annuity regulatory framework to separate account index-linked products filed as variable, including but not limited to product definitions and nonforfeiture requirements.



PBR Review (EX) Working Group

- PBR Blanks Subgroup (Chair: Kaj Samsom, VT)
 - Reviewed draft of PBR reporting in blanks at the Spring meeting. Draft includes a five part VM-20 supplement which considered reporting in VM-31. Next steps are to consider any comments on this draft and begin development of instructions.
- PBR Review (EX) Subgroup (Chair: Pete Weber, OH)
 - Reviewed draft of PBR high level examiner handbook repository language. Next steps are to develop drafts of detailed examiner handbook and financial analysis handbook procedures and tools to utilize.
- PBR Review Working Group reported an initial draft of the Valuation Analysis Working Group (VAWG) procedures has been developed and will be discussed on a future call.
- Larry Bruning, NAIC, previewed for the working group a draft proposal to be presented to the PBR Implementation (EX) Task Force regarding experience reporting referred to as the PBR Statistical Agent Framework.



PBR Implementation (EX) Task Force

■ PBR Statistical Agent Framework

- Larry Bruning and Dan Schelp, NAIC, presented a proposed statistical agent framework. The proposal includes:
 - ❑ Designation of 3-5 states to collect experience data on behalf of all NAIC members.
 - ❑ Designated states would contract with a single statistical agent to receive the experience data.
 - ❑ Creation of a new working group (e.g., Life Statistical Agent (EX) Working Group) to assist states and provide guidance under this process that would include support regarding the selection of a statistical agent.
 - ❑ The new working group will also provide a recommendation for an allocation formula across the industry for payment of statistical agent expenses and provide support for a confidentiality framework of the company experience data.
- The Task Force exposed the PBR Statistical Agent Framework; comments are due by May 15.



PBR Implementation (EX) Task Force

■ Captive Discussions (XXX / AXXX)

- At the Spring meeting and on an open call (4/14/14) the Task Force discussed comments on the 2/17/14 Rector report.
- The Task Force is considering whether to schedule an interim meeting to continue discussions.

■ PBR Company Outreach

- The Task Force will consider revisions to a proposed PBR survey based on comments to the original exposure. May is targeted for sending out the survey.
- The Task Force is working with the Society of Actuaries (SOA) to conduct this survey.
- Any company specific information will remain confidential and will be de-identified before review. The SOA and the Task Force will make their findings public.



Emerging Actuarial Issues (E) Working Group

- The Working Group has adopted 37 interpretations to date.
- Although the number of requests for interpretations have slowed there are two significant interpretations the Working Group will address leading up to the summer. These two requests relate to:
 - 1) The ratio in AG 38, Section 8E. The Working Group is addressing questions relating to the measurement of prefunding and consistency of assumptions between the numerator and denominator of this ratio which is used to establish reserves.
 - 2) A question regarding the calculation of the YRT reinsurance reserve credit when the gross reserve results in the modified VM-20 deterministic reserve pursuant to AG 38, Section 8D. The question and recommendation was exposed for comment to May 14.



Important Links

- PBR Implementation (EX) Task Force:

http://www.naic.org/committees_ex_pbr_implementation_tf.htm

PBR Review (EX) Working Group

http://www.naic.org/committees_ex_pbr_imp_rev_wg.htm

- Emerging Actuarial Issues (E) Working Group

http://www.naic.org/committees_e_emerging_actuarial_issues_wg.htm

- Life Actuarial (A) Task Force

http://www.naic.org/committees_a_latf.htm



Kansas Field Test and NAIC Life Risk-Based Capital Working Group Update

Mark Birdsall, MAAA, FSA, MBA
Chief Actuary, Kansas Insurance Department
Chair, NAIC Life Risk-Based Capital Working Group



Academy ARWG & Kansas Field Test

- Working in parallel with Academy's ARWG
- Field Test Objectives
 - Test the VM-22 Floor Reserve calculations, including sensitivity testing the parameters
 - Test the practicality of the new Representative Scenarios Method for calculating the Modeled Reserve for VM-22
 - Current Estimate Reserve based on best estimate assumptions
 - Aggregate Margin based on the Cost of Capital Method
 - Provide information regarding an appropriate reserve level for non-variable annuities with Guaranteed Lifetime Income Benefits (GLIBs)
 - Compare Alpha, Beta (from Floor Reserve calculations) with current CARVM reserve, Cash Surrender Value, AG 43 Standard Scenario Reserve
 - Compare Modeled Reserve with “cross-product reserve,” and a stochastic reserve



Modeled Reserve-Key Objectives

- Multi-risk approach reflects risk profiles of different product designs
 - More complex products and continuing innovations
 - Significant risks in addition to interest rate risk and market risk
- Practical approximation of the results from stochastic modeling of all key risks
- AUDITABLE to reduce resources required by both companies and regulators



Modeled Reserve-Calculation

- Modeled Reserve = Current (Best) Estimate Reserve (CER) + Aggregate Margin (AM)
- Representative Scenarios Method (RSM) used to calculate both pieces of the Modeled Reserve
 - Identify key risks for a block of business
 - Generate scenarios for each key risk and assign a probability level for each scenario
 - Use probabilities and sensitivities to calculate CER and AM



Floor Reserve

- Floor Reserve = $\text{Max}(\text{CSV}, \text{Alpha}, \text{Beta})$
- Alpha is a CARVM-like, Greatest Present Value calculation assuming Listed Benefits are terminated on valuation date
 - No projection of charges or claims for Listed Benefits
- Beta is a PV calculation assuming utilization rates for the Listed Benefits
 - Beta is only calculated if there is a listed benefit present on a policy
 - Developed GLIB utilization function
 - Peak utilization at key retirement ages
 - In-the-moneyness (ITM) calculations affect the timing and amount of utilization
 - Utilization differs between qualified and non-qualified contracts



Base GLIB Utilization-% of Lives Remaining (unsmoothed)

Attained Age	Non-Qualified	Qualified
60	20%	25%
65	30%	50%
70	40%	100%
75	60%	100%
80	80%	100%
85	100%	100%



Life Risk-Based Capital Working Group (LRBC)

- New Vice-Chair: Kerry Krantz of Florida
- Commercial Mortgages
 - Blanks adoption of full AVR proposal
 - NCREIF index will be available to the public—no substitute index needed
 - Spreadsheet data requests
- Adoption of ACA fee sensitivity test for 2014
 - Affects life insurance companies writing business subject to ACA
 - Does not affect the “official” RBC calculations
- Limit the use of AVR in the calculation of Total Adjusted Capital to that portion not used by the company in asset-adequacy analysis
 - Comment period completed—probable adoption by the Working Group
- Contingent Deferred Annuities
 - Referred consideration of Operational Risk to the Operational Risk Subgroup
 - Exposure of ACLI recommendations



LRBC (continued)

■ C-3 Phase 1 modifications

- Consistency of treatment of AVR and IMR in C3P1 and C3P2
- For larger companies with significant amounts of business subject to C3P1 analysis, prepare an information-only exhibit to prepare to update the Economic Scenario Generator used for C3P1
 - Recalculate C3P1 RBC using the version 7 of the Academy Scenario Generator
 - Voluntarily recalculate C3P1 RBC using a proprietary generator
- Include Indexed Annuities next year

■ Proposed RBC credit for reinsurance would follow the Credit for Reinsurance Model Law with regard to collateral requirements for unauthorized reinsurers

- Working Group email discussion forwarded to CATF Chair



LRBC (continued)

■ Stress Testing Subgroup

- Consider Straw Man Proposal, including proposed timeline
 - Refine the Exemption Filter
 - Review ORSA requirements

■ C-3 Phase 2/AG 43 (E/A) Joint Subgroup

- Chair: Pete Weber (Ohio)
- Considering previous analyses
- Seeking resources for modeling work



Other RBC Efforts

■ Investment RBC Working Group

- Developing updated C-1 RBC factors for different classes of assets
- Time horizon and safety level
- Classes of assets currently examined
 - Corporate bonds—American Academy of Actuaries modeling
 - » Role of AVR vs. expected losses
 - Real Estate—report exposed
 - Derivatives—report exposed
 - Common Stocks—report adopted
- Consider consistency of factors across life, health, and P&C RBC formulas

■ Operational Risk Subgroup

- Accepted CDA referral from LRBC
- Developing informational filing for 2014



Practice Note on Life Principle-Based Reserves Under VM-20

Todd Erkis, FSA, MAAA, CERA
Chairperson, Life Principle-based
Practice Note Workgroup



VM-20 Practice Note Exposure Draft Has Been Released

- On February 24, the practice note was exposed for comment
- Link to practice note:
 - http://www.actuary.org/files/VM-20_Practice_Note_Exposure_Draft_2-24-14.pdf
- Comment period will end soon (ends on April 25)
- Received a limited number of comments so far
 - Hoping for more comments before exposure period is over
 - Will take comments for a limited time after the exposure period ends – so please provide your feedback



A Practice Note is a Summary of Industry Practice

- Should summarize common industry practice including multiple methods if they exist
- Practice notes are not binding like an actuarial guideline
- Practice notes do not provide guidance on accepted actuarial practices like Actuarial Standards of Practice
- There is no industry practice at this point since VM-20 is not yet operable
 - So this practice note attempts to capture what will be expected practice, by drawing on those who helped draft VM-20 and others with experience with VM-20



Creating the Practice Note was a Challenging Task

- Workgroup started on this practice note in 2010
- VM-20 went through several modifications during the work on the practice note
- The practice note is based on the December 2, 2012 version of VM-20
 - The final version of the practice note will be updated to whatever is the final version of VM-20
- The Academy felt that it was important to have a version of the practice note available for actuaries starting to implement VM-20



VM-20 Industry Practice

- In March 2012, the NAIC released a report summarizing a VM-20 impact study
 - Over 30 companies volunteered to calculate reserves under the current version of VM-20 for several types of products
- About 10 of these companies agreed to join the VM-20 practice note workgroup
 - Their experience calculating VM-20 values was invaluable and improved the level of expected industry experience included in the practice note
- The practice note includes additional expected industry practice based on the experience of the workgroup



VM-20 Practice Note

- As VM-20 is new, the workgroup felt that we needed to have two goals in creating the practice note:
 1. To assist actuaries who are implementing VM-20 with understanding the requirements of the regulation
 2. To provide a summary of expected industry practice
- The practice note attempts to explain VM-20 in what we believe is a logical order
 - Contains many references back to the relevant VM-20 sections so the actuary can use both the practice note and VM-20



VM-20 Calculation Schematic (references are to the Practice Note)

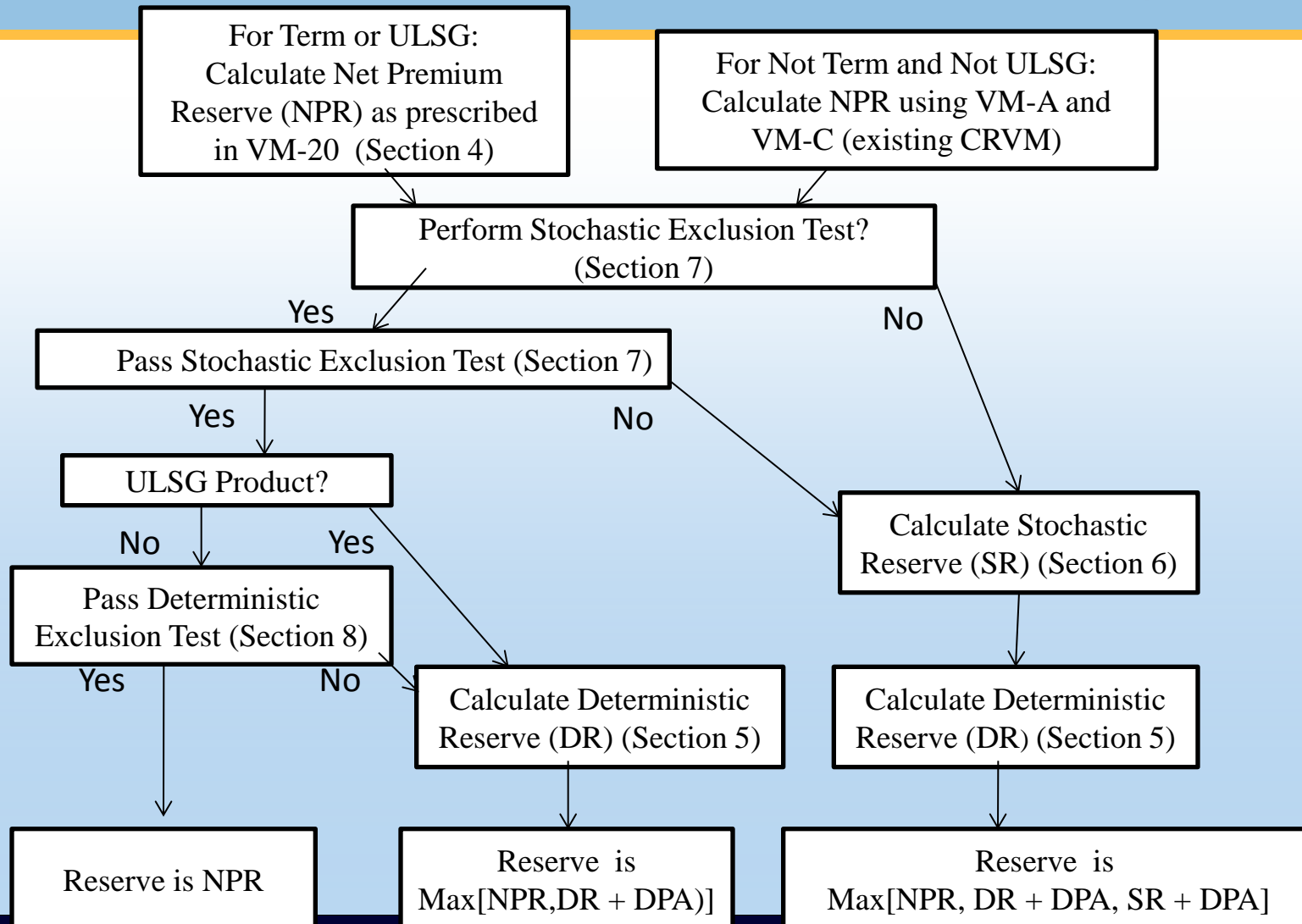


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Implementation:

Q6.2: Calculation of the Scenario Reserve

Q6.2: How is the Scenario Reserve calculated?

A: Section 5.B describes how the Scenario Reserve is calculated. The Scenario Reserve is calculated at the aggregation subgroup level not the model segment level. A Model Segment is defined in Section 1.C.7 of VM-20 and discussed in Section 7.A.1.b. It is a group of policies with a similar investment strategy. If a company is managing the risks of two or more different product types as part of an integrated risk management process, then the products may be combined into the same subgroup (an aggregation subgroup). The guidance note in Section 7.B.3 states that aggregating policies into a common subgroup allows the cash flows arising from the policies for a given stochastic scenario to be netted against each other.

A scenario reserve is the negative of the present value of accumulated net cash flows at the beginning or end of the year when the accumulated deficiency is the most negative during the projection period. This method is often called the Greatest Present Value of Accumulated Deficiency (GPVAD). In this method, future sufficiencies past the minimum point are not taken into account in the calculation.



Implementation:

Q6.2: Calculation of the Scenario Reserve

The reserve for each scenario is determined as follows:

- At the valuation date, and at the end of each projection year, calculate the negative of the projected statement value of assets (may be positive or negative) for all model segments. The negative of the projected statement value of assets is called the negative accumulated deficiency.
- Discount the negative accumulated deficiencies at the end of each projection year to the valuation date.
- Discount rate = 105% of 1-year treasury rate
- Sum the discounted negative accumulated deficiencies across all Model Segments
- Scenario Reserve = the largest of discounted values plus the starting asset amount.



Implementation:

Q6.2: Calculation of the Scenario Reserve

Hypothetical Example for Scenario Reserve Calculation

Scenario #: 123 of 10,000

Product: 5 Year Term Insurance

Projection Period: 5 Years (assumption of 100% lapse at end of year 5)

Starting Assets: \$1,000

Projection Year (t)	0	1	2	3	4	5
[1] Statement Value of Assets	\$ 1,000	\$ 500	\$ (100)	\$ (50)	\$ (105)	\$ 500
[2] Negative of the Statement Value of Assets = -1 * [1]	\$ (1,000)	\$ (500)	\$ 100	\$ 50	\$ 105	\$ (500)
[3] One-Year Treasury Rate (beginning of year)		0.200%	1.000%	3.000%	3.000%	2.000%
[4] 105% of One-Year Treasury Rate = 1.05 x (3)		0.210%	1.050%	3.150%	3.150%	2.100%
[5] Discount Factor (t) = Discount Factor (t-1) / (1+[4]@t-1)	1.000	0.998	0.988	0.957	0.928	0.909
[6] Discounted Negative Accumulated Deficiencies = [2] x [5]	\$ (1,000)	\$ (499)	\$ 99	\$ 48	\$ 97	\$ (455)
[7] Greatest Present Value of Accumulated Deficiency (GPVAD) = Max([6])	\$ 99					
[8] Scenario Reserve = Starting Assets + [7]	\$ 1,099					



Industry Practice:

Q3.13: Frequency of projection time step

Q3.13: What is the required modeling time step / frequency of projection?

A: While there is no required model time step in the VM-20 requirements, actuaries commonly use monthly, quarterly or annual time steps in cash flow projections. In choosing a time step, actuaries may wish to consider factors such as product characteristics, the frequency and method of setting credited interest rates or other non-guaranteed elements, the sensitivity of the projection to the time step, and practical limitations. Some actuaries may have a quarterly time step for a specific model segment, while using a monthly time step for other model segments. Some actuaries might consider longer (annual) time steps for very stable Model Segments with little interest rate sensitivity.



Conclusion

- Comment period ends on April 25
 - Please submit all comments as soon as you can
 - The workgroup will review all comments and make appropriate changes to the practice note
- The practice note will be updated for changes in VM-20 and released again if there are significant changes to the practice note from the comments
- PBA implementation seminar – look for announcement
- We expect the practice note to continue to be updated after VM-20 is released as industry practice emerges



Questions

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