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July 15, 2016

Mr. Felix Schirripa
Chair, VM-22 (A) Subgroup
Life Actuarial (A) Task Force
National Association of Insurance Commissioners

Dear Mr. Schirripa,

The Standard Valuation Law Interest Rate Modernization Work Group of the American Academy of Actuaries¹ appreciates the opportunity to respond to the questions posed by the NAIC's Life Actuarial Task Force VM-22 Subgroup on its May 17, 2016, call and by the ACLI in their April 20 letter. Please note that this letter should be read in conjunction with our report submitted to you in February (hereafter referred to as the "Original Proposal") and our Q&A document submitted to you in April. The letter sent by the ACLI on April 20 is also a useful reference as the source of some questions.

The table on the following page summarizes the enhancements to the proposal based on the feedback received. Detailed answers to the questions received are outlined in the subsequent pages, along with the rationale for any enhancements.

¹ The American Academy of Actuaries is an 18,500+ 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.

Assumption	Current	Original Proposal	Proposed Change
(A) Valuation Rate Buckets	1	4, with valuation rate for each bucket based on a single point on the yield curve.	Refine precision of valuation rate buckets by using weighted averages of “key rates” (2-, 5-, 10-, and 30-year points of the yield curve) to generally match typical insurance company investment strategies, which reflect the shape of the yield curve.
(B) Credit Quality	Moody’s Index	Average life insurer bond portfolio	Model portfolio <ul style="list-style-type: none"> • Add Treasuries. • Remove below investment grade assets. • For prudence, exclude higher yielding assets, e.g., private bonds, structured securities, and hedge funds.
(C) Provisions for Adverse Deviation	20% of reference rate in excess of 3%	VM-20 defaults and investment expenses	As a result of the change made above in (B), there is additional prudence in the credit quality of the portfolio.
(D) Averaging Time Period	Annual	<u>Non-Jumbo</u> : Quarterly with no lag <u>Jumbo</u> : Daily	Introduce one quarter lag for non-Jumbos. For example, a Q2 valuation rate would reflect the prior quarter’s investment market conditions.
(E) Issue Age for Group Annuities	N/A	Average age for group annuitant contracts	Increase the precision of the valuation rate by determining a rate for each annuitant.
(F) Jumbo Threshold	N/A	\$100 million	\$250 million
(G) Date for determination of rate	As defined by SVL	As defined by SVL	For Jumbos, “premium determination date” minus one day

Below is an attribution of changes A, B, and C from above for a sample quarterly valuation date (4Q 2015):

	12/31/2015			Bucket			Difference from Prior Step			
Step	Description	Change	A	B	C	D	A	B	C	D
0	Current		4.00%	4.00%	4.00%	4.00%				
1	Original Proposed Methodology		2.00%	3.25%	3.75%	4.25%	-2.00%	-0.75%	-0.25%	0.25%
2	Updated Duration Buckets, Original Credit Dist	A	2.25%	2.75%	3.50%	4.00%	0.25%	-0.50%	-0.25%	-0.25%
3	Updated Duration Buckets, New Credit Dist	B, C	2.25%	2.75%	3.25%	4.00%	0.00%	0.00%	-0.25%	0.00%
Cumulative Difference from Current							-1.75%	-1.25%	-0.75%	0.00%

* Above does not reflect the one quarter lag for simplicity of presentation.

Q1. NAIC: Should a model portfolio be used instead of the average insurance company portfolio?

A1. The work group agrees that the use of a model portfolio is a reasonable simplification and could be used to introduce additional prudence. We suggest that the model portfolio be constructed by removing all assets below investment grade from the average insurance company bond portfolio. The resulting portfolio is more conservative than a typical insurance company investment portfolio, as it would not include assets that generally provide additional yield, including below investment grade bonds, commercial mortgages, private bonds, or alternative assets, e.g., hedge funds. Note that the inclusion of such higher yielding assets would be reasonable in a portfolio supporting single premium immediate annuities given the illiquid nature of the liability.

In light of the above, we recommend a model portfolio of:

- 5% Treasuries
- 15% AA (5% AA+, 5% AA, 5% AA-)
- 40% A (13.33% A+, 13.33% A, 13.33% A-)
- 40% BBB (13.33% BBB+, 13.33% BBB, 13.33% BBB-)

This model portfolio is based on the average life insurer investment portfolio in Treasuries and corporate bonds. Additional prudence is added by removing all assets below investment grade and all other assets, which generally provide additional yield, including commercial mortgages, private bonds, and alternative assets. See above for sample rates as of 12/31/15.

The NAIC also requested that the work group examine a model portfolio consisting of 20% Treasuries, 30% AA, 30% A, and 20% BBB securities. As can be seen on the following page, the resulting rates using the Original Proposal methodology (with the exception of bucket A) are similar to rates determined after including the refinements proposed in this document.

We do not recommend the use of a 20/30/30/20 credit quality distribution as we believe this introduces excessive conservatism.

At 12/31/15				Bucket				Difference from Prior Step			
Description	A	B	C	D	A	B	C	D			
Updated Duration Buckets, New Credit Dist	2.25%	2.75%	3.25%	4.00%							
Original Proposal with 20/30/30/20 Credit Dist	1.50%	2.75%	3.25%	3.75%	-0.75%	0.00%	0.00%	-0.25%			

Q2. NAIC: In addition to the maximum interest rate, should there be an additional requirement for actuaries when determining the valuation interest rate for in-scope products under principles based reserves?

- A2. We considered potential approaches for adding an additional requirement, including performing asset adequacy/cash flow testing on a stand-alone basis for transactions above a certain size or for an annual cohort of new business.

There are benefits to requiring transactions above a certain size to also pass a stand-alone asset adequacy test. They include ensuring that the liability would not be understated due to the maximum valuation rate substantially exceeding the yield of the portfolio backing the liability. However, we believe that, due to the substantial proposed improvements to the formulaic valuation rate, this circumstance is unlikely to occur. Also, if an insurer invests significantly more conservatively than the proposed model portfolio, it is very unlikely that the insurer would be competitive in the marketplace.

The benefit of requiring an annual new business cohort to meet stand-alone asset adequacy testing would be to ensure an adequate reserve in quarters with volatile interest rates and non-uniform sales. However, we believe that the use of daily rates for Jumbo transactions and quarterly rates for non-Jumbo contracts largely mitigates this risk. In addition, such a requirement would place a substantial burden on many companies, including small companies, participating in the retail or small group annuity marketplace that do not participate in Jumbo transactions.

Overall, due to the substantial improvements proposed for the formulaic approach, including quarterly rates for non-Jumbo annuities, daily rates for Jumbo transactions, and better duration and cash flow matching, we believe the proposed formulaic rates greatly mitigate the risk that the use of the maximum valuation rate would lead to additional reserves being required under a stand-alone asset adequacy test. For these reasons, we do not recommend adopting any additional requirements.

Q3. ACLI letter, Principle #1. The underlying asset portfolio needs to include any derivatives that are used to hedge or “lock-in” the investment returns backing annuity quotes.

- A3. We believe that the underlying asset portfolio used in the determination of the valuation rate should represent the average portfolio used to support these types of liabilities and thus be independent of the investment strategy of any particular insurer. This is in keeping with Principles #1 (valuation rates based on asset portfolios) and #3 (equal treatment across companies) described in the Original Proposal. Regardless, this concern

would be mitigated by a change to the date used to determine the valuation rate proposed in the answer to question 15.

Q4. ACLI letter, Principle #7. The balance should also include considerations of the creation of pricing risk for the insurer and satisfying valuation timing constraints.

A4. We agree that these are important considerations. For these reasons, we have proposed a change to the time period used to determine the valuation rate as outlined in the answer to question 14.

Q5. ACLI letter, Scope, paragraph #1. Scope includes both immediate and deferred income annuities, and not accumulation vehicles.

A5. Yes. Our intent is to include in scope all products which currently use the Single Premium Immediate Annuities (“SPIA”) valuation rates, with the exception of long-term disability income insurance. Note that deferred income annuities are explicitly defined to be in scope.

Q6. ACLI letter, Scope, paragraph #2. Is Actuarial guideline 9B scope inconsistent with this proposal?

A6. We recommend the scope as defined in the proposal. We are open to reviewing any specific description of inconsistencies with Actuarial Guideline 9B provided by the ACLI.

Q7. ACLI letter, Scope, paragraph #3. Long-term disability income insurance uses the SPIA valuation interest rate minus 100bps.

A7. We agree that long-term disability income insurance should not be in scope and that the long-term disability valuation rate should continue to be calculated under the methodology in effect as of July 2016, i.e., prior to the adoption of any changes to the SPIA valuation rate methodology proposed by this work group.

Q8. ACLI letter, Scope, paragraph #4. Implications on other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a change in fund basis.

A8. We have a recommendation for contracts that the insurance company elects to value using the change in fund basis methodology. In determining the valuation rate applicable to the change in fund, companies should use the rate currently applicable to new issues for a similar contract. In order to simplify the calculation process, we recommend that the rate be determined as of the policy’s anniversary date instead of determining a rate applicable to each quarter’s change in the fund value.

Q9. ACLI letter, Methodology, Durational fit.

A9. In light of this feedback regarding durational fit, we recommend three refinements to the duration bucket methodology:

- 1.) Issue Age Brackets

We recommend the following minor changes to issue age brackets for contracts with life contingencies:

Bucket	Original (February 2016)	Proposed (July 2016)
A	91 and above	90 and above
B	80-90	80-89
C	72-79	70-79
D	71 and below	Below 70

This change is simply meant to make duration buckets more intuitive. Note: these changes are accounted for in the second proposed change below.

2.) Valuation Rate Buckets

We recommend using the weighted averages of “key rates” (2, 5, 10, and 30 years) rather than using a single rate for each bucket (A=2.5, B=7.5, C=12.5, D=20 years). These key rates are common benchmark rates for market participants; less common rates, e.g., 8 years, are thus avoided. We believe these refinements better reflect the actual investment strategies of companies and better match the duration and cash flow characteristics of the liabilities.

i. Non-Jumbo

Weights by Interest Rate (Treasuries + VM-20 spreads)				
Bucket	2 Year	5 Year	10 Year	30 Year
A	50%	40%	10%	0%
B	30%	30%	35%	5%
C	15%	20%	45%	20%
D	5%	10%	40%	45%

ii. Jumbo

Weights by Interest Rate (Bank of America effective corporate yields)						
Bucket	1Y- 3Y	3Y - 5Y	5Y - 7Y	7Y - 10Y	10Y - 15Y	+15Y
A	50%	20%	20%	5%	5%	0%
B	30%	15%	15%	17.5%	17.5%	5%
C	15%	10%	10%	22.5%	22.5%	20%
D	5%	5%	5%	20.0%	20.0%	45%

3.) For structured settlements with life contingencies, there may be an age-rated process where medical records are reviewed to determine if higher mortality rates are anticipated, resulting in age ratings.. We propose that if age ratings are used to determine the valuation mortality, then age ratings also be used to determine the valuation interest rate.

Q10. ACLI letter, Jumbo Definition, size threshold. Can \$250 million be used instead of \$100 million?

A10. After reviewing additional sales data, we agree with the ACLI's recommendation to use a \$250 million threshold.

Q11. ACLI letter, Jumbo Definition. What if participant triggered purchases cause a Jumbo threshold breach?

A11. Participant-triggered purchases causing a threshold breach within the three-month consolidation period for Jumbo contracts is a highly unlikely event. If a breach should occur, however, we recommend that the statutory reserve interest rate switch from the non-Jumbo to the Jumbo rate. If participant purchases cause a threshold breach after the three-month consolidation period, then we recommend that the non-Jumbo valuation rate continue to be used.

Q12. ACLI letter, Average Age / Average Duration. For a group annuity contract, can the age for each participant be used rather than the average age for the contract?

A12. We agree with the ACLI's proposal to determine the valuation rate separately for each participant in a group annuity based on their issue age and guaranteed certain period. In our effort to balance simplicity and precision, we proposed the simplification of using the average age, acknowledging the decreased precision inherent in this method.

Q13. ACLI letter, Methodology, At Issue vs. At Premium Assignment of Rate. How are rates set for additional premiums?

A13. We recommend that the valuation rate be locked in for premiums received at issue, and that any additional premiums are valued at the rate in effect at the time of the receipt of those additional premiums.

Q14. ACLI letter, Non-Jumbo Valuation Rate Timing

A14. We note that the current valuation rate methodology has pricing risk and valuation rate uncertainty for the first six months of the year.

Nevertheless, we recognize the legitimate concerns regarding pricing and valuation under the current proposal. In order to address these concerns, we propose that the maximum valuation interest rate for non-Jumbo annuities be calculated based on a one-quarter lag using the time period consistent with VM-20 spreads, rather than the quarter of issue. For example, a transaction in Q2 would use the average Treasury rates and VM-20 spreads from Q1 of the same year. While this change could increase the absolute "error" in any given quarter, these errors should largely be offset over time, assuming non-Jumbo business is issued on a relatively uniform basis.

This change would arguably leave some pricing risk during the first month of each quarter while the interest rate information for the prior quarter is being compiled for publication. The group considered numerous other options. We believe that this approach best balances precision vs. pricing risk since the use of a one-quarter lag still results in improved interest rate precision compared to the current valuation rate methodology. At the same time, it allows the rate to be known or reasonably estimated at the time of pricing. Additionally, this one-quarter lag will allow reasonable time for implementation, by reserve valuation actuaries, into reserve calculation and other systems.

We do not endorse different averaging periods for Treasuries and VM-20 spreads as proposed in the ACLI letter. This approach would result in a mismatch of the two components of yield and thus would not be consistent with Principle #1 (valuation rates based on asset portfolios).

Q15. ACLI letter, Jumbo Valuation Rate Timing. The ACLI is concerned that there is uncertainty at the time of quoting on the applicable reserve requirements for Jumbo contracts.

A15. We acknowledge the validity of these concerns and propose to address them by using the “premium determination date” to determine the valuation rate. “Premium determination date” is defined as the date when the premium is determined by the insurance company and agreed to by the group annuity sponsor. Since the insurance company typically sets its price based on yields from the business day prior to the premium determination date, we propose this date (premium determination date minus 1 day) be used to determine the Jumbo valuation rate. Use of this date to determine the valuation rate should eliminate uncertainty for pricing purposes.

Below is a timeline that illustrates an example for a common segment of the market where brokers generally work with plan sponsors to solicit bids from multiple insurers, select an insurer, and pay the premium one to two weeks later. In this example, the premium determination date is June 22, and thus the date used for valuation rate purposes is June 21.

Prior Quarter End	"Day Before Premium Determination Date"	"Premium Determination Date"	Quarter End Valuation
March 31 (A)	June 21 (B)	June 22 (C)	June 30 (D)
Item from			
<u>Description</u>		<u>Date</u>	<u>Timeline Above</u>
"Calendar Quarter End Preceding Premium Determination Date"		March 31	A
"Day Before Premium Determination Date:"		June 21	B
"Premium Determination Date"		June 22	C
"Initial Quarter End Valuation"		June 30	D

We believe that it is common for officers of both insurance companies and plan sponsors to sign documents on the premium determination date that produce an auditable paper trail. For this reason, it would be difficult for an insurance company to manipulate this date. It is important to note that the premium determination date often precedes the actual date the premium is transferred from the plan sponsor to the insurance company. Sometimes, the actual premium is transferred days, or weeks, after the premium determination date. Given this, it substantially reduces pricing risk to have the valuation rate reference the day before the premium determination date, regardless of the “issue date” or “premium received date” of the contract.

In some transactions in the Jumbo market the premium is determined based on capital market conditions at closing the day before the premium is transferred. In this situation, the premium determination date is the same as the issue date. This is typical when there is a more significant time period, often a few months, between the plan sponsor selecting an insurer and transferring the premium.

We believe this recommendation to use the premium determination date to determine the valuation rate appropriately balances precision with mitigating pricing risk. We believe that the premium determination date should only be used for the purposes of determining the valuation rate, and should not indicate any obligation to pay benefits in the event that the plan sponsor ultimately does not pay the premium. By using daily rates, even if in some circumstances there may be a short lag before the premium is received, this proposal substantially increases the precision of interest rates for Jumbo transactions compared to the current SPIA valuation methodology, and compared to the non-Jumbo rates in this proposal.

Q16. ACLI letter, Jumbo Case Spanning Calendar Years. Is there a basis change if a contract has premiums within the three month consolidation period that cross calendar years?

A16. We recommend that the change in valuation rate for the situation described not be considered a basis change since the methodology to determine the valuation rate is set at issue and is not changing.

Q17. ACLI letter, Financial Reporting Requirements. Can valuation basis be grouped for financial statement presentation purposes?

A17. The valuation interest rates are rounded to the nearest 25bps. Therefore, while there will be some increase in the number of valuation bases, it will be limited by the use of rounding. Therefore, we do not believe consolidation is necessary.

Q18. ACLI letter, Computability. The ACLI would like to ensure that various specific items are provided to ensure the valuation rates can be objectively computed.

A18. Our April 25 Q&A letter provides additional details regarding exactly how to compute the valuation rates according to the work group’s proposal. We offer our support in refining any additional details necessary to ensure computability.

We appreciate the efforts of the VM-22 Subgroup to address the issues related to the statutory regulations regarding the determination of statutory valuation interest rates. If you have any questions or would like to further discuss the above topics, please contact Amanda Darlington, life policy analyst, at darlington@actuary.org.

Sincerely,

Paul Hance, MAAA, CERA, FSA
Chairperson

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Vice Chairperson

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