Fred,

We have reviewed the ACLI proposal regarding revisions to AG 49 and appreciate the opportunity to comment on it. Overall, we believe that the ACLI proposal effectively fulfils LATF’s stated goals of eliminating the specific illustrated benefits of both Cap Buy-Ups and Multipliers but does so in an overly complex and engineered way that requires more disclosure, makes illustrations less understandable for consumers and leaves the door open for product designs that, if history is any indication, will be created in its aftermath to maximize illustrated performance for the express purpose of competitive positioning.

In stark contrast to the ACLI proposal, the Independent Proposal makes only one modification to the underlying structure of AG 49 to accomplish the goals outlined by LATF and does not, in any way, require changes to the Illustration Model Regulation. The Independent Proposal is far simpler – and far more effective – than the ACLI proposal. Furthermore, the Independent Proposal also includes revisions to Section 7 that will allow life insurers to fully demonstrate the mechanics and potential performance of indexed crediting strategies using supplemental crediting reports in an effort to further consumer understanding and provide a platform for life insurers to differentiate their products in a way that is consistent with Fixed Index Annuities. We fail to see why this approach would be any less appealing for Indexed UL than it is for Fixed Index Annuities, where it was widely supported by life insurers.

The remainder of this letter will detail the challenges with the ACLI proposal and contrasts them with the Independent Proposal.

**Proposal Overview**

Of the 61 independent clauses in the ACLI proposal, only 10 are unchanged from the original AG 49 language. The ACLI proposal introduces numerous and material new clauses, definitions and formulas. While many of the changes were clarifications to the original guideline, the ACLI proposal relies on the following material modifications to deliver an effective solution to LATF’s request:

1. 3(B) – The formal definition of the Annual Net Investment Earned Rate (NIER)
2. 3(G) – The introduction and definition of the Hedge Budget
3. 3(K) – The introduction and definition of the Supplemental Hedge Budget
4. 4(B)(ii) – The addition of NIER \* 1.45 as a maximum illustrated Index Credit as a percentage of AV (“illustrated rate”)
5. 5(A)(ii) – The addition of the Hedge Budget as a limitation for application of the 1.45 factor for DCS

Taken together, these material modifications form the mechanical changes to the guideline that limit the illustrated benefits of Buy-Up Caps and Multipliers. However, they also represent fundamentally new additions to the guideline that create their own new challenges that require a response.

By contrast, the Independent Proposal requires just one modification to Section 4(A) to accomplish all of LATF’s goals. The current AG 49 language for Section 4(A) uses a hypothetical historical lookback approach, applying today’s currently available index parameters based on highly dynamic option prices to long-term historical index data, a methodology only used (to our knowledge) in indexed insurance products. The Independent Proposal replaces this rare and untested methodology with the universally accepted and empirically supported Black-Scholes formula for option valuation. In doing so, any option-based strategy used inside of an indexed insurance product will always illustrate at its fair-market value, meaning that any augmentation of the option budget through policy charges will be neutralized for the purposes of the illustrated scale. For example, a 1% asset-based charge to buy a 20% multiplier for an account with a 5% Black-Scholes fair-market valuation will result in a net illustrated rate of 5% (5% \* 1.2 = 6% - 1% charge = 5% illustrated rate). This simple modification entirely satisfies LATF’s stated goals and does not require any other changes to AG 49 to accommodate it.

**Disclosure**

In the original AG 49, the entirety of the illustrated scale was *directly related* to declared non-guaranteed elements or contractual provisions. However, in the ACLI’s proposal, the illustrated scale will be impacted by non-contractual, non-disclosed elements. For example:

1. The maximum illustrated rate for the product may be limited by NIER \* 1.45 (Section 4)
2. The maximum illustrated rate for a product with a Supplemental Hedge Budget will be comprised of two separately calculated factors:
   1. 4(B) – Maximum illustrated rate, the minimum of 4(A) calculation and NIER \* 1.45
   2. 4(C)(i) – Supplemental Hedge Budget, which is a function of both NIER and the Hedge Budget

In either situation, it will be impossible to calculate the maximum illustrated rate based solely on declared non-guaranteed elements and contractual factors because the NIER, the Hedge Budget and the Supplemental Hedge Budget are not disclosed and are not declared non-guaranteed elements. This is immensely problematic for consumer understanding of illustrated performance and product mechanics and represents a significant step backwards from the original guideline.

In order to remedy this problem, disclosure of the newly defined terms of Net Investment Earned Rate, Hedge Budget and Supplemental Hedge Budget for each offered indexed account, including the BIA, must be required and certified. These rates should be readily available in the illustration along with a description of how these rates formulaically relate to the maximum illustrated rate with numerical examples.

The Independent Proposal, by contrast, presents a simple and straightforward approach to determining the maximum illustrated rate in Section 4(A) using the Black-Scholes Formula, the most common options valuation formula in the world, and relying on externally verifiable pricing factors such as LIBOR and index implied volatility. The remaining inputs are the declared non-guaranteed elements of the product relating to indexed performance such as the cap or participation rate. As a result, the entirety of the illustrated scale under the Independent Proposal can be easily sourced using publicly available data or declared non-guaranteed elements, presenting a superior solution for furthering consumer understanding of illustrated performance and product mechanics.

**Product Designs**

While the ACLI proposal effectively addresses products currently in market using Buy-Up Caps and Multipliers, it leaves open the potential for other product designs created to maximize illustrated performance under the new guideline. These product designs may take many forms, but generally speaking, they may fall into the following categories:

1. Use of proprietary indices and alternative S&P 500 crediting strategies, which can have significantly higher lookback rates than the BIA, to reduce hedge costs without reducing illustrated performance and to reinvest the savings into other product features, including fixed interest bonuses or policy charge reductions. There are already products in market using proprietary indices to generate excess illustrated performance and many of these products would be unchanged under the ACLI proposal.
2. Development of product features that do not technically adhere to the definition of an Index Credit in 3(F) but allow the life insurer to generate an effective illustrated rate in excess of the BIA rate, but is still supportable under the DCS limitation of NIER + min(NIER, HB) \* 1.45. There are already products in market with features that might qualify as indirectly indexed linked.
3. Development of bonuses that exploit seemingly small timing differences to generate outsized performance. For example, a charge for the Supplemental Hedge Budget might be deducted based on the end of year values but its value credited based on the beginning of year values, effectively allowing excess interest from the Supplemental Hedge Budget to appear on the illustration. There are already products in market using timing differences to increase attractiveness of certain features.
4. Product designs that provide for actuaries to assume a higher Hedge Budget than is actually currently required to hedge the account, such as in the case of assuming a higher Hedge Budget today in order to account for the possibility of future increases in hedge costs. Using a higher Hedge Budget will allow for insurers to illustrate all the way up to the NIER \* 1.45 limit in certain cases, allowing for higher illustrated performance simply by applying a different interpretation of what constitutes a Hedge Budget. Every company already uses a different methodology for determining their hedge budgets.

Each of these product designs represents a way for a life insurer to gain an edge in illustrated performance. However, these designs can also be combined in ways that could produce illustrated performance on par with the products driven by Multipliers and Buy-Up Caps prevalent in today’s market. There is no doubt that designs like these will become the next phase of the ongoing Indexed UL illustration war. Significant revisions and clarifications need to be added to the ACLI proposal in order to prevent the illustrated benefits of designs like these. Without those revisions and clarifications, we will certainly be revisiting AG 49 again in the future.

The Independent Proposal, however, does not leave open the possibility of any of these designs generating outsized performance because all effects of enhancing the option-based returns in the product are neutralized by using only fair-market option valuation for the purpose of the illustrated scale rather.

**Direct Illustration of Defined Hedge Profits**

In the original AG 49, the maximum illustrated rate defined in 4(B) was a function solely of the hypothetical historical lookback methodology (HHLM) prescribed in 4(A) and limited by the 1.45 factor in 5(A) for the purposes of DCS testing. In both the original guideline and the ACLI proposal, the 1.45 factor is only applicable to insurers that engage in a hedge program, which is an indicator that the factor is due to an implied average, long-term return from directly engaging in a hedge program.

In the ACLI proposal, the 4(B) maximum illustrated rate is now also limited directly by the NIER \* 1.45 factor. In effect, the 1.45 factor has now become a visible limitation that directly impacts the illustrated scale as opposed to a DCS limitation that was created to accommodate the illustrated scale. Furthermore, the effective reduction of the factor to 1.0 for the Supplemental Hedge Budget is also a visible limitation.

Considering that the 1.45 factor is *solely attributable to a hedge program and therefore the assumed profits from engaging in the hedge program*, illustrated performance under the ACLI proposal will be sourced directly from illustrated returns attributable solely to the hedge program. This is fundamentally different than how asset returns are modeled in other fixed insurance products, where the declared illustrated rate is based on actual, currently paid returns in aggregate rather than assumed future returns of a specific asset class that directly and attributably impacts the illustrated rate in all years, as in the ACLI proposal.

The Independent Strategy, by contrast, uses the Black-Scholes option valuation methodology and therefore does not have any recognition of “profits” arising from hedging transactions. As a result, the 1.45 factor is repurposed in the Independent Proposal for inevitable temporary disconnects between the insurer’s NIER/hedge budget and the fair-market valuation of the indexed parameters. The 1.45 factor, therefore, does not need to be directly disclosed or explained in the illustration.

If LATF were to consider to the proposed ACLI framework, it is essential for LATF to consider and formally engage outside experts, including independent actuaries and finance academicians and practitioners, in determining:

1. Whether or not it is appropriate to illustrate directly attributable returns from specific asset classes or strategies, including hedge strategies, in a fixed, non-registered life insurance product
2. If it is appropriate, then what factor most accurately represents the average expected profit from engaging, generally, in hedging strategies that will replicate the various parameters of indexed crediting

The second question is of critical importance because of the central role that the 1.45 factor plays in the ACLI proposal and the fact that the magnitude of the factor itself was never publicly supported with external and independent empirical and theoretical evidence.

In closing, we ask that LATF consider the Independent Proposal on equal footing with the ACLI proposal and allow an exposure period for both proposals. For your reference, a blue-lined version of AG 49 with the suggested changes in the Independent Proposal is below.

Thank you.

Bobby Samuelson, Executive Editor, The Life Product Review

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Ben Baldwin Jr

# Actuarial Guideline XLIX

**THE APPLICATION OF THE LIFE ILLUSTRATIONS MODEL REGULATION TO POLICIES WITH INDEX-BASED INTEREST**

**Background**

The *Life Insurance Illustrations Model Regulation* (#582) was adopted by the NAIC in 1995. Since that time there has been continued evolution in product design, including the introduction of benefits that are tied to an external index or indices. Although these policies are subject to Model #582, not all of their features are explicitly referenced in the model, resulting in a lack of uniform practice in its implementation. In the absence of uniform guidance, two illustrations that use the same index and crediting method often illustrated different credited rates. The lack of uniformity can be confusing to potential buyers and can cause uncertainty among illustration actuaries when certifying compliance with Model #582.

This guideline provides uniform guidance for policies with index-based interest. In particular, this guideline:

1. Provides guidance in determining the maximum crediting rate for the illustrated scale and the earned interest rate for the disciplined current scale.
2. Limits the policy loan leverage shown in an illustration.
3. Requires additional consumer information (side-by-side illustration and additional disclosures) that will aid in consumer understanding.

# Text

1. Effective Date

This Actuarial Guideline shall be effective as follows:

* 1. Sections 4 and 5 shall be effective for all new business and in force life insurance illustrations on policies sold on or after September 1, 2015.
  2. Effective March 1, 2017, Section 4 and Section 5 shall be effective for all in-force life insurance illustrations on policies within the scope of this actuarial guideline, regardless of the date the policy was sold.
  3. Sections 6 and 7 shall be effective for all new business and in force life insurance illustrations on policies sold on or after March 1, 2016.

1. Scope

This Actuarial Guideline shall apply to any life insurance illustration that meets both (i) and (ii), below:

1. The policy is subject to Model #582.
2. Interest credits are linked to an external index or indices.
3. Definitions
   1. Benchmark Index Account: An Index Account with the following features:
4. The interest calculation is based on the percent change in S&P 500® Index value only, over a one-year period using only the beginning and ending index values. (S&P 500® Index ticker: SPX)
5. An annual cap is used in the interest calculation.
6. The annual floor used in the interest calculation shall be 0%.
7. The participation rate used in the interest calculation shall be 100%.
8. Interest is credited once per year.

# Account charges do not exceed the account charges for any corresponding Index Accounts within the policy in any policy year. If Index Accounts with different levels of account charges are offered with the illustrated policy, more than one Benchmark Index Account may be used in determining the maximum illustrated crediting rates for the policy’s Index Accounts, subject to the requirements of 5.D.. However, for each Index Account within the policy, only one Benchmark Index Account shall apply. Any rate calculated in 4 (B) shall not apply for an Index Account if the account charges for the applicable Benchmark Index Account exceed the account charges for that Index Account in any policy year. Account charges include all charges applicable to an Index Account, whether deducted from policy values or from premiums or other amounts transferred into such Index Account.

1. Additional amounts credited are not less than the additional amounts credited for any corresponding Index Accounts within the policy in any policy year. Any rate calculated in 4 (B) shall not apply for an Index Account if the additional amounts credited for the applicable Benchmark Index Account **are** less than the additional amounts credited for that Index Account in any policy year. Additional amounts include all credits that increase policy values, including but not limited to experience refunds or bonuses.
2. There are no limitations on the portion of account value allocated to the account.
   1. Fixed Account: An account where the credited rate is not tied to an external index or indices.
   2. Index Account: An account where the credited rate is tied to an external index or indices.
3. Illustrated Scale  
     
   The credited rate for the illustrated scale for each Index Account shall be limited as follows:
4. Calculate the value of the replicating option trades for the Benchmark Index Account over the preceding calendar year, based on the Black-Scholes formula using the following inputs calculated on each trading day:
   * 1. Average closing implied volatility for 12-month, at-the-money S&P 500 call options
     2. Average closing implied volatility for out-of-the-money 12-month S&P 500 call options with a normalized strike price equal to the currently declared cap
     3. Average dividend yield on the S&P 500
     4. Average 12-month LIBOR or another appropriate interest rate measure
     5. If the insurer offers an applicable Benchmark Index Account with the illustrated policy, the illustration actuary shall use the current annual cap for the applicable Benchmark Index Account in 4 (A).
     6. If the insurer does not offer an applicable Benchmark Index Account with the illustrated policy, the illustration actuary shall use actuarial judgment to determine a hypothetical, supportable current annual cap for a hypothetical, supportable Index Account that meets the definition of a Benchmark Index Account, and shall use that cap in 4 (A).
5. For each applicable Benchmark Index Account, the value calculated in 4 (A) shall be the maximum credited rate(s) for the illustrated scale.
6. For other Index Accounts using other equity, bond, and/or commodity indexes, and/or using other crediting methods, the illustration actuary shall use actuarial judgment to determine the maximum credited rate for the illustrated scale. The determination shall reflect the fundamental characteristics of the Index Account as relates to the Black-Scholes valuation formula, including realized volatility, implied volatility, volatility targets (if applicable), embedded fees (if applicable), deduction of an interest rate component (if applicable), dividend participation (if applicable) and any other factors that may apply. In no event shall the credited rate for the illustrated scale exceed the applicable rate calculated in 4 (B).
7. At the beginning of each calendar year, the insurer shall be allowed up to three (3) months to update the credited rate for each Index Account in accordance with 4 (B) and 4 (C).
8. Disciplined Current Scale  
   The earned interest rate for the disciplined current scale shall be limited as follows:
9. If an insurer engages in a hedging program for index-based interest, the assumed earned interest rate underlying the disciplined current scale shall not exceed 145% of the annual net investment earnings rate (gross portfolio earnings less provisions for investment expenses and default costs) of the general account assets (excluding hedges for index-based credits) allocated to support the policy.
10. If an insurer does not engage in a hedging program for index-based interest, the assumed earned interest rate underlying the disciplined current scale shall not exceed the annual net investment earnings rate of the general account assets allocated to support the policy.
11. These experience limitations shall be included when testing for self-support and lapse-support under Model #582, accounting for all benefits including illustrated bonuses.

# If more than one Benchmark Index Account is used for an illustrated policy, each set of Index Accounts that correspond to each Benchmark Index Account must independently pass the self-support and lapse-support tests under Model #582, subject to the limitations in 5 (A), (B), and (C). All experience assumptions that do not directly relate to the Index Accounts as to expenses, mortality, investment earnings rate of the general account assets, lapses, and election of any Fixed Account shall equal the assumptions used in the testing for the entire policy.

1. Policy Loans  
     
   If the illustration includes a loan, the illustrated rate credited to the loan balance shall not exceed the illustrated loan charge by more than 100 basis points.
2. Additional Standards  
     
   The basic illustration shall also include the following:
3. A table showing the minimum, maximum and arithmetic average of a geometric average for any available Benchmark Index Account using the following methodology:
   * 1. Calculate the geometric average annual credited rate for each applicable Benchmark Index Account for the 25-year period starting on 12/31 of the calendar year that is 66 years prior to the current calendar year (e.g., 12/31/1949 for 2015 illustrations) and for each 25-year period starting on each subsequent trading day thereafter, ending with the 25-year period that ends on 12/31 of the prior calendar year.
4. For each Index Account illustrated, a table showing actual annual historical index changes and corresponding hypothetical interest rates using current index parameters, including any applicable asset-based charges and asset-based interest bonuses or index credit multipliers paid within the first 10 years of the policy:
   * 1. The 10-year period with the lowest calculated returns within the period referenced in 7(A)(i)
     2. The 10-year period with the highest calculated returns within the period referenced in 7(A)(i)
     3. The most recent 10-year historical period as calculated on the final trading day of the preceding calendar year
5. If an index has not been in existence for 10 years, the table shall replace the figures with the maximum available back-tested performance.