A PUBLIC POLICY PRACTICE NOTE

Practice Note Addendum: Compliance Actuarial Guideline XLIX

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Developed by
the Life Illustrations Work Group
of the American Academy of Actuaries

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This practice note addendum was prepared by the Life Illustrations Work Group (IWG), a work group organized by the Life Products Committee of the American Academy of Actuaries. The IWG is updating the practice note, *Actuarial Standard of Practice No. 24: Compliance with the NAIC Life Insurance Illustrations Model Regulation*, to reflect the recently adopted Actuarial Guideline 49[1] affecting the testing and development of illustrative nonguaranteed values for policies with index-based interest.

This practice note addendum is not a promulgation of the Actuarial Standards Board, is not an actuarial standard of practice (ASOP), is not binding upon any actuary and is not a definitive statement as to what constitutes generally accepted practice in the area under discussion. Events occurring subsequent to this publication of this addendum to the practice note may make the practices described in this practice note addendum irrelevant or obsolete.

This practice note addendum represents a description of practices believed by the IWG to be commonly employed by actuaries in the United States in 2015. The purpose of the practice note addendum is to assist actuaries in performing professional services in compliance with Actuarial Guideline 49, the Model Regulation and ASOP No. 24. No representation of completeness is made; other approaches may also be in common use.

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[1] Actuarial Guideline XLIX – The Application of the Life Illustrations Model Regulation to Policies with Index Based Interest adopted June 18, 2015 by the National Association of Insurance Commissioners Executive/Plenary Committee.

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Note: All answers assume the policy passes the required self-support/lapse-support testing at the prescribed rates.

A) Practice Note Definitions

1) ASOP: Actuarial Standard of Practice No. 24*, Compliance with the NAIC Life Insurance Illustrations Model Regulation.*
2) AG: Actuarial Guideline 49
3) Benchmark maximum illustrated rate: The maximum illustrated rate calculated in Sections 4 A and 4 B of the AG. The benchmark maximum illustrated rate limits the illustrated rate for each account in the policy.
4) Model: NAIC Life Insurance Illustrations Model Regulation (#582)
5) Lookback approach: The approach described in Sections 4 A and 4 B of the AG.

All other terms are those defined and/or used in the Life Illustrations Practice Note.

B) Overview

Q1. What is a reasonable process to follow when applying the AG, ASOP, and Model to the Disciplined Current Scale (DCS) testing for an illustrated policy?

A. Although some actuaries may perform these five steps in a different order, many actuaries would consider the following approach:

1. Determine the benchmark maximum illustrated rate as described in 4 A and 4 B.
    a. If the policy has an account that meets the definition of a benchmark index account, use it (as described in AG Section 4 A i).
    b. If not, construct a hypothetical account and use it (as described in AG Section 4 A ii). See Q4-Q5 below.
2. Determine the maximum illustrated rate for each non-benchmark index account in accordance with 4 C. Note that the AG does not specifically prescribe a methodology for this step, but caps the illustrated rate for each account at the benchmark maximum illustrated rate. See Q6-Q10 below.
3. Decrease maximum illustrated rate and/or increase illustrated loan rate on the amount borrowed, if necessary to comply with AG Section 6 for illustrations of policies sold on or after March 1, 2016. See Q11-Q12 below.
4. Decrease maximum illustrated rates if necessary to pass testing using DCS limits in AG Section 5.
5. Document assumptions, methodologies, and potential deviations.

C) AG Section 2: Scope

Q2. My company has a variable universal life insurance product with an indexed account. Does the AG apply when considering how to illustrate the indexed account?

Pertinent Section of the AG:

> **Section 2.** This Actuarial Guideline shall apply to any life insurance illustration that meets both (i) and (ii), below:
>
> i. The policy is subject to Model Regulation #582.
> ii. Interest credits are linked to an external index or indices.

Pertinent Section of the Model:

> **Section 3**. This regulation applies to all group and individual life insurance policies and certificates except:
>
> A. Variable life insurance;
> B. Individual and group annuity contracts;
> C. Credit life insurance; or
> D. Life insurance policies with no illustrated death benefits on any individual exceeding $10,000.

A. No. Variable life insurance is outside the scope of the Model and thus outside the scope of the AG. For considerations regarding the illustration of variable life insurance, refer to Actuarial Guideline XV, Model Regulation #270, and any applicable Financial Industry Regulatory Authority (FINRA) materials. Some actuaries may choose to use the AG as guidance for illustrations of index accounts in circumstances where the AG does not conflict with variable life insurance illustration requirements, but are not required to do so.

D) AG Section 3: Definitions

Q3. When determining the benchmark index as defined in Section 3, are account charges that pay for contract expenses treated differently than account charges that support index parameters (e.g., caps, participation rates, floors)?

Pertinent Section of the AG:

> **Section 3 B vi.** Account charges, if applicable, do not exceed the account charges for any other accounts within the policy.

A. Account charges are not specifically defined in the AG, but many actuaries would look to the policy forms for definitions. Some actuaries view these charges as those generally affecting the calculation of the crediting rate, and charged directly to the values allocated to an index account within the policy. Many actuaries do not view these charges as including those specific policy assessments for cost of insurance charges (COIs) and other policy expenses.

E) AG Section 4: Illustrated Scale

Q4. My policy does not have an account that meets the definition of a benchmark index account. How do I determine the benchmark maximum illustrated rate for my policy?

Pertinent Sections of the AG:

> **Section 3.** Benchmark Index Account: An Index Account with the following features:
>
> i. 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)
> ii. An annual cap is used in the interest calculation.
> iii. The annual floor used in the interest calculation shall be 0%.
> iv. The participation rate used in the interest calculation shall be 100%.
> v. Interest is credited once per year.
> vi. Account charges, if applicable, do not exceed the account charges for any other accounts within the policy.
> vii. There are no limitations on the portion of account value allocated to the account.
>
> **Section 4 A ii.** If the insurer does not offer a 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).

A. If a policy does not have an account that meets the definition of a benchmark index account, the actuary must create a hypothetical account that meets the definition of a benchmark index account and then use judgment to solve for a current cap. Most actuaries would consider the amount it would cost to hedge the benefit and then apply that amount to the benchmark index account to determine the cap that could be afforded. This cap is then used with the hypothetical benchmark index account to determine the benchmark maximum illustrated rate.

EXAMPLE 1: My policy has an account that meets most of the definition of a benchmark index account, except it uses a different index. In this example, the actuary would solve for a cap that could be afforded if the account used the S&P 500 index rather than the actual index.

EXAMPLE 2: My policy has an account that meets most of the definition of a benchmark index account, except it has a 1% floor. In this example, the actuary would solve for a cap that could be afforded if the account had a 0% floor rather than the 1% floor.

EXAMPLE 3: My policy has account(s) with a 1% floor and account(s) with a 0% floor. If one of these accounts meets the definition of a benchmark index account with a 0% floor, the AG states that this account and its corresponding cap should be used to determine the benchmark maximum illustrated rate. If none of these accounts meets the definition of a benchmark index account, the actuary would create a hypothetical account that meets the definition of a benchmark index account and then use judgment to solve for a current cap that could be afforded.

EXAMPLE 4: My policy has account(s) with 1% account charges in addition to indexed account(s) with 0% account charges. If the policy has an account that meets the definition of a benchmark index account with a 0% account charge, the AG states that this account and its corresponding cap should be used to determine the benchmark maximum illustrated rate, even if some of the accounts have non-zero charges. If the policy does not have an account that meets the definition of a benchmark index account with a 0% account charge, the actuary must create a hypothetical account that meets the definition of a benchmark index account with a 0% account charge and then use judgment to solve for a current cap that could be afforded.

EXAMPLE 5: My policy has account(s) with only 1% account charges. If the policy has an account that meets the definition of a benchmark index account with a 1% account charge, the AG states that this account and its corresponding cap should be used to determine the benchmark maximum illustrated rate. If the policy does not have an account that meets the definition of a benchmark index account with a 1% account charge, the actuary must create a hypothetical account that meets the definition of a benchmark index account with a 1% account charge and then use judgment to solve for a current cap applicable to that account.

Q5. How do I determine a supportable current annual cap for the hypothetical benchmark index account?

Pertinent Section of the AG:

> **Section 4 A ii.** If the insurer does not offer a 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).

A. The AG does not explicitly address this topic. Many actuaries would first determine what could be afforded to spend to hedge the benefit on an annualized basis. They would then determine what hypothetical cap rate could be afforded for the same hedge cost on a benchmark index account, and then use that cap rate to perform the calculations in Sections 4 A and 4 B to determine the maximum illustrated credited rate on an annual basis.

Q6. My product offers one account with a 11.5% cap and a 1% floor using the S&P 500 on an annual point-to-point basis. How do I determine the maximum illustrated rate?

A. Following the steps described in Q1, many actuaries would first determine the benchmark maximum illustrated rate. Because this example policy does not have an account that meets the definition of a benchmark index account, a hypothetical account would be constructed. Assume a policy that offers an 11.5% cap and 1% floor on the S&P 500 could afford a 14% cap and 0% floor on the S&P 500. Then the benchmark maximum illustrated rate would be calculated using a 14% cap. For example, assume a lookback calculated for the benchmark index account results in a benchmark maximum illustrated rate of 7.5%.

Next, many actuaries would determine the maximum illustrated rate for the account being illustrated. In accordance with Section 4 C, actuaries use actuarial judgment reflecting the fundamental characteristics of the index and the appropriate relationship to the expected risk/return of the benchmark index account. Because this example account is based on the S&P 500 index and uses annual point-to-point crediting, the risk/return relationship is similar, so many actuaries would repeat the calculations for the benchmark maximum illustrated rate, but instead using the 11.5% cap and 1% floor. Assume the result is a 7% maximum illustrated rate, which is less than the 7.5% benchmark maximum illustrated rate. The lesser of this and the benchmark maximum illustrated rate would be used for this account, 7% in this example.

Next, for illustrations on policies sold after March 1, 2016, many actuaries compare the rate(s) to the loan charges and make adjustments as appropriate. If the benchmark maximum illustrated rate is 7% and the policy illustrates a loan with a 5% charge, the maximum illustrated rate and/or the loan charge rate would need to be adjusted to comply with Section 6 of the AG.

Finally, actuaries conduct DCS testing to ensure the policy passes the self-support and lapse-support tests.

Q7. My company does not use the S&P 500 as an index in all indexed accounts. Am I still limited by the results from the S&P 500 even if the index I am illustrating is not an S&P 500 account?

Pertinent Section of the AG:

> **Section 4 C.** 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 and the parameters shall have the appropriate relationship to the expected risk and return of the Benchmark Index Account. In no event shall the credited rate for the illustrated scale exceed the rate calculated in 4 (B).

A. Yes. The AG states that in no event shall the credited rate for the illustrated scale exceed the benchmark maximum illustrated rate, which is calculated using the S&P 500 index.

Q8. Does Section 4 C require the use of the lookback approach to determine the maximum illustrated rate for accounts with other types of equity, bond, or commodity indexes and/or other crediting methods?

Pertinent Section of the AG:

> **Section 4 C.** 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 and the parameters shall have the appropriate relationship to the expected risk and return of the Benchmark Index Account. In no event shall the credited rate for the illustrated scale exceed the rate calculated in 4 (B).

Pertinent Section of the ASOP:

> **Section 3.4.2.** If trends indicate that significant and continuing deterioration in an experience factor has occurred or, in the actuary's professional judgment, is likely to occur between the date of the experience study and the effective date of the disciplined current scale underlying the illustration, the actuary should recognize such deterioration in determining the assumptions to be used.

A. No, the lookback approach is not required. If the actuary's judgment is that the period of index history is reasonable, many actuaries would use the lookback approach for the other accounts and then use the lesser of the lookback rates and the benchmark maximum illustrated rate in the illustration. For example, many actuaries would use the lookback approach for most equity indexes and crediting methods, but may find the methodology inappropriate for some other indexes.

If historical data is considered abnormally positive, or trends are considered to be unlikely to continue, many actuaries will not use the data or will make conservative modifications to the data before it is used. For example, if a bond index has consistently increased in recent history and the current interest rate environment is low, many actuaries might feel that the trend may not continue for a significant period in the future. In that event, some actuaries might determine an illustrated rate for such a bond index as an amount related to the amount it would cost to hedge the benefit. Similar thinking might be applied to some equity or commodity indexes.

Q9. Can I use index history to determine the maximum illustrated rate for accounts with other types of equity, bond, or commodity indexes if it is less than 65 years?

Pertinent Section of the AG:

> **Section 4 C.** 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 and the parameters shall have the appropriate relationship to the expected risk and return of the Benchmark Index Account. In no event shall the credited rate for the illustrated scale exceed the rate calculated in 4 (B).

A. The AG does not specify a minimum period of index history, so it seems allowable to use the available index history without modification. However, some actuaries may modify their approach depending on the length of index history available. As with other illustration assumptions, most actuaries would include the rationale for these assumptions in their documentation.

If the actuary’s judgment is that the period of index history is not sufficient, some actuaries may choose not to illustrate that account. Other actuaries may make adjustments as appropriate. For example, some actuaries determine a lookback for the available period and compare it with an S&P 500 lookback over the same time period and then make adjustments to impute an illustrated crediting rate.

In no event can the maximum illustrated rate exceed the benchmark maximum illustrated rate.

Q10. How do I determine the maximum illustrated rate for an account that credits index-based interest other than annually?

Pertinent Section of the AG:

> **Section 4 C.** 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 and the parameters shall have the appropriate relationship to the expected risk and return of the Benchmark Index Account. In no event shall the credited rate for the illustrated scale exceed the rate calculated in 4 (B).

A. The AG does not explicitly address this topic, but it does make it clear that the illustrated rate cannot exceed the benchmark maximum illustrated rate. Many actuaries would perform the calculations in AG Sections 4 A and 4 B, but with modifications to accommodate the crediting method. For example, if an account credits interest every two years, some actuaries may choose to use 24-year or 26-year periods instead of 25-year periods in the calculation.

Q11. Does Section 4 directly limit the illustrated bonus?

A. Actuaries have differing interpretations as to how illustrated bonuses fit within the AG. While there is a reference to bonuses in Section 5, there is no explicit reference to a bonus limitation in AG Section 4. Some actuaries interpret this to mean that there is no explicit limit to the illustrated bonus in AG Section 4, and illustrate bonuses above the maximum illustrated rate so long as the bonuses pass DCS testing as described in AG Section 5. Some actuaries consider a bonus to be part of the interest credit, and thus limit the total credited benefits as described in AG Section 4. Other interpretations may apply.

F) AG Section 5: Disciplined Current Scale

Q12. Does Section 5 A directly limit the maximum illustrated rate?

Pertinent Sections of the AG:

> **Section 5 A.** 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.

Section 5 C. These experience limitations shall be included when testing for self-support and lapse-support under Model Regulation #582, accounting for all benefits including illustrated bonuses.

Pertinent Section of the Model:

Section 6 C. If an interest rate used to determine the illustrated non-guaranteed elements is shown, it shall not be greater than the earned interest rate underlying the disciplined current scale.

A. The Model appears to allow the use of an interest rate in excess of the earned interest rate underlying the DCS, as long as the self-support and lapse-support test are met and as long as the illustration does not show an interest rate in excess of the earned interest rate underlying the DCS. The AG specifies that the 145% limit should be used when determining the earned interest rate assumption for DCS testing, so the 145% limit in AG Section 5 A could indirectly limit the interest rate used to determine the illustrated non-guaranteed elements. Because many illustrations disclose this interest rate, the 145% limit could become a more direct limit to the interest rate.

G) AG Section 6: Policy Loans

Q13. What options do I have to satisfy the AG requirements of illustrating loans?

Pertinent Section of the AG:

Section 6. 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.

Pertinent Sections of the Model:

Section 4 C. "Currently payable scale" means a scale of non-guaranteed elements in effect for a policy form as of the preparation date of the illustration or declared to become effective within the next ninety-five (95) days.

Section 4 G. "Illustrated scale" means a scale of non-guaranteed elements currently being illustrated that is not more favorable to the policy owner than the lesser of:

(1) The disciplined current scale; or
(2) The currently payable scale.

A. The answer to this question depends on the loan charge type. If the loan charge rate is fixed and guaranteed, most actuaries would illustrate a loan charge that is equal to the actual loan charge and would decrease the illustrated rate credited to loans to comply with AG Section 6.

If the loan charge rate can vary, some actuaries may find it acceptable to either decrease the illustrated rate credited to the loan balance, increase the illustrated loan charge, or some combination of both, so long as the illustrated loan charge does not exceed the maximum specified in the contract.

Q14. Can the illustrated credited rate on the loan balance exceed the maximum illustrated rate in Section 6? For example, if the maximum illustrated rate is 7% and the illustrated loan charge is 6.5%, can the illustrated rate on the loaned amount be 7.5%?

Pertinent Sections of the AG:

> **Section 4 C.** 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 and the parameters shall have the appropriate relationship to the expected risk and return of the Benchmark Index Account. In no event shall the credited rate for the illustrated scale exceed the rate calculated in 4 (B).
>
> **Section 6.** 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.

A. The AG states that in no event shall the illustrated rate exceed the maximum, so the maximum illustrated rate in this example is 7%, regardless of loan status.

H) AG Section 7: Additional Standards

Q15. For the exhibits required by Section 7 C, what if my index history is less than 20 years?

Pertinent Section of the AG:

> **Section 7 C.** For each Index Account illustrated, a table showing actual historical index changes and corresponding hypothetical interest rates using current index parameters for the most recent 20-year period.

A. The AG does not specify what to do in the event that an index has less than 20 years of history. Some actuaries would show a table with the available history, and then include disclosure in the illustration that the index does not have enough history to complete the full 20-year table.

Q16. My policy contains index accounts with charges expressed as a percent of account value. Should the additional exhibits required by Section 7 be gross or net of these charges?

Pertinent Sections of the AG:

> **Section 7 B.** A table showing the minimum and maximum of the geometric average annual credited rates calculated in 4 (A).
>
> **Section 7 C.** For each Index Account illustrated, a table showing actual historical index changes and corresponding hypothetical interest rates using current index parameters for the most recent 20-year period.

A. The AG does not specify whether the rates shown in these tables should be gross or net of asset charges. The maximum credited rate calculated in Section 4 is gross of asset charges, so many actuaries would use only the index parameters associated with each account when calculating the rates in Section 7. Some actuaries may reduce the values to reflect certain charges. The actuary may find it useful to communicate to the responsible officer what charges are or are not included in the calculations so the exhibits can be accompanied by appropriate disclosure.