

<b>Dates:</b> Received	Reviewed by Staff	Distributed	Considered
[ ]/[ ]/22			
<b>Notes:</b> APF 2022-[ ]			

## **Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force Amendment Proposal Form**

1. Identify yourself, your affiliation and a very brief description (title) of the issue.

**Identification:**

Alan Routhenstein, on behalf of the American Academy of Actuaries' Life Reserves Work Group, Annuity Reserves and Capital Work Group, and Variable Annuity Reserves and Capital Work Group

**Title of the Issue:**

Swap Spreads and London Inter-Bank Offered Rate (LIBOR) transition to the Secured Overnight Financing Rate (SOFR) - Updated VM-20 prescribed swap spreads guidance in light of the LIBOR transition to SOFR.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

VM-20 Section 9.F.8.d, VM-20 Appendix 2.F, VM-20 Appendix 2.G  
January 1, 2022 NAIC *Valuation Manual*

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

Proposed edits to VM-20 for LIBOR transition to SOFR are shown in the attached Appendix

4. State the reason for the proposed amendment? (You may do this through an attachment.)
  - a. Bank regulators and a group of swap market participants have agreed that for interbank interest rate swaps executed after 2021, the floating rate needs to be based on an index other than LIBOR.
  - b. During 2021 the swap market evolved such that the definition of a standard n-year interest rate swap changed in January 2022 to be a SOFR swap (for which the floating rate is based on SOFR) from the historical LIBOR swap (for which the floating rate is LIBOR).
  - c. As a result, VM-20 instructions for how the NAIC will calculate and publish swap spreads needs to be updated for:
    - i. Current Benchmark swap spreads (as of each month end); and
    - ii. Long-Term Benchmark swap spreads (as of each quarter end)
  - d. Given that 2022 is a transition year, it would be helpful for companies and regulators if the NAIC publishes both LIBOR and SOFR swap spreads to the extent data is available.
  - e. The associated presentation provides further background and rationale for this proposal.

NAIC Staff Comments:

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# Appendix

## Proposed amendments to VM-20 for APF 2022-[ ] on Swap Spreads and LIBOR transition to SOFR

### VM-20 Section 9.F.8.d Procedure for Setting Prescribed Gross Asset Spreads:

d. Interest rate swap spreads over Treasuries shall be prescribed by the NAIC for use throughout the cash-flow model wherever appropriate for transactions and operations including, but not limited to, purchase, sale, settlement, cash flows of derivative positions and reset of floating rate investments. A current and long term swap spread curve shall be prescribed for year one and years four and after, respectively, with yearly grading in between. ~~The three month and six month points on the swap spread curves shall be the market observable values for these tenors. Currently, this shall be the corresponding~~In order to accommodate a banking industry decision to replace London Interbank Offered Rate (LIBOR) with Secured Overnight Financing Rate (SOFR), and given that the banking industry is implementing this transition during 2021 – 2023, the NAIC’s procedure to calculate swap spreads is distinct for each of the following three time periods:

- i. For valuation dates and interim month-end dates on or before December 2021, the current prescribed curve shall be the LIBOR swap curve (for which 3-month and 6-month points represent spreads over Treasuries. ~~When the NAIC determines LIBOR is no longer effective, the NAIC shall recommend a replacement to~~ for 3-month and 6-month LIBOR), and the long term swap spread curve shall be calculated based on 15-year moving averages.
- ii. For valuation dates and interim month-end dates during 2022, given that this year will be a transition year because the Life Actuarial (A) Task Force ~~which in early 2022 will have declared 3-month and 6-month SOFR swap rates as the replacements for 3-month and 6-month LIBOR for VM-20 benchmark swap spreads,~~
  - 1) Current and long-term LIBOR swap spreads will continue to be prescribed and published to the extent the data is still available, and
  - 2) Current and long term SOFR swap spreads will be prescribed and published, as described for a month-end date after 2022, once the data becomes available.
- iii. For valuation dates and interim month-end dates after 2022, the current prescribed curve shall be the SOFR swap curve (for which 3-month and 6-month points represent spreads over Treasuries for the 3-month and 6-month SOFR swap rate, defined herein as the fixed rate one party pays at the end of three months or six months in exchange for receiving at such time 3-month or 6-month SOFR calculated on a compounded in arrears basis). Long term SOFR swap curve spreads, given that the SOFR swap market did not emerge before late 2021 and that SOFR is a new index for which there is no official data before April 2, 2018, shall be effective upon adoption by the Task Force. For ~~calculated based on 15 year moving averages of prescribed estimates of historical current SOFR swap spreads.~~

## VM-20 Appendix 2.F Current Benchmark Swap Spreads:

### 1. Extract data from Bank of America and JP Morgan:

- a. For a month-end date on or before December 2021, for tenors of one-year to thirty-years, extract LIBOR swap spread data determined as of the last business day of the month by maturity. For Bank of America data, convert the swap rate for each maturity to a swap spread by subtracting the corresponding maturity Treasury yield from the swap rate. For JP Morgan, the swap spread is provided for each maturity. ~~Average the Bank of America swap spread with the JP Morgan swap spread by maturity determined as of the last business day of the month. Publish the Current Benchmark Swap Spreads by maturity in a table.~~
- b. For a month-end date during 2022,
  - i. extract LIBOR swap data to the extent the data is available from both Bank of America and JP Morgan, and
  - ii. once the data becomes available, have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank's SOFR swap spreads) as described for a month-end date after 2022.
- c. For a month-end date after 2022, have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank's SOFR swap spreads).
  - i. For each maturity "m" = 0.25, 0.5, 1 ... 30 years, and the last business day "u" of the month:
    1. SOFR swap spread(m,u) = SOFR swap rate(m,u) - Treasury yield (m,u).

**[Drafting Note:** 3-month and 6-month SOFR swap rates are defined herein as the fixed rate one party pays at the end of three months or six months in exchange for receiving at such time 3-month SOFR or 6-month SOFR, calculated on a compounded in arrears basis.]

### 2. Calculate benchmark spreads:

- a. For a month-end date on or before December 2021, average the Bank of America LIBOR swap spread with the JP Morgan LIBOR swap spread by maturity determined as of the last business day of the month.
- b. For a month-end date during 2022,
  - i. average the LIBOR swap spread data by maturity as before 2022 to the extent the data continues to be available, and
  - ii. average the SOFR swap spread data by maturity once the data becomes available.
- c. For a month-end date after 2022, average the Bank of America SOFR swap spread with the JP Morgan SOFR swap spread by maturity.

### 3. Publish the Current Benchmark Swap Spreads by maturity in a table.~~Extract daily~~

- a. For a month-end during 2022, publish LIBOR swap spreads to the extent the data is still available, publish SOFR swap spreads once the data becomes available, and clarify in each column of published current swap spreads whether the spreads are LIBOR swap spreads or SOFR swap spreads.
- b. For a month-end after 2022, indicate in the publication that these are SOFR swap spreads.

VM-20 Appendix 2.G Long-Term Benchmark Swap Spreads:

1. Extract data from Bank of America and JP Morgan:
  - a. For a quarterly valuation date on or before December 2021, extract data to calculate historical current LIBOR swap spreads. More specifically, extract daily LIBOR swap spread data over the prescribed observation period (rolling 15 year period) ending on the last business day of the quarter. For Bank of America data, convert the daily swap rate for each maturity to a swap spread by subtracting the corresponding maturity Treasury yield from the swap rate. For JP Morgan, the daily swap spread is provided for each maturity.Average
  - b. For a quarterly valuation date during 2022,
    - i. extract LIBOR swap data to the extent the data is still available from both Bank of America and JP Morgan, over the prescribed observation period (rolling 15 year period) ending on the last business day of the quarter, and
    - ii. once the data becomes available, have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank's SOFR swap spreads) on each business day over the prescribed observation period (rolling 15-year period) ending on the last business day of the quarter, as described for a quarterly valuation date after 2022 and before 2037.
  - c. For a quarterly valuation date after 2022 and before 2037, have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank's SOFR swap spreads) on each business day over the prescribed observation period (rolling 15-year period) ending on the last business day of the quarter, as follows:
    - i. For each business day "u" after 2021 and within the prescribed observation period (rolling 15 year period),:
      - 1) For each maturity "m" = 0.25, 0.5, 1 ... 30 years,
        - a)  $\text{SOFR swap spread}(m,u) = \text{SOFR swap rate}(m,u) - \text{Treasury yield}(m,u)$
    - ii. For each business day before 2022 and within the prescribed observation period (rolling 15 year period), utilize Bloomberg's 2021-03-05 published USD Spread Adjustments as follows:
      - 1) For each maturity "m" = 3 or 6 months, and business day "u" prior to 2022,
        - a)  $\text{SOFR swap spread}(3 \text{ months},u) = \text{LIBOR swap spread}(3 \text{ months},u) - 0.26161\%$  (the USD 3-month Spread Adjustment)
        - b)  $\text{SOFR swap spread}(6 \text{ months},u) = \text{LIBOR swap spread}(6 \text{ months},u) - 0.42826\%$  (the USD 6-month Spread Adjustment)
      - 2) For each maturity "m" = 1 ... 30 years, and business day "u" prior to 2022,
        - a)  $\text{SOFR swap spread}(m,u) = \text{LIBOR swap spread}(m,u) - 0.26161\%$  (the USD 3-month Spread Adjustment)
    - iii. [LATF decision for which the associated Academy/LRWG Presentation discusses pros and cons: Either delete this paragraph if LATF finds "ii" above to be acceptable, or delete "ii" above and this bracketed sentence, and un-bold this paragraph "iii" if LATF decides to implement this more precise calculation.] For each business day before 2022 and within the prescribed observation period (rolling 15 year period), utilize official or estimated 3-month and 6-month Spread Adjustments, as defined in the 2020-10-08 Bloomberg publication entitled "IBOR Fallback Rate Adjustments Rule

Book”, applicable on each business day before 2022 as follows:

- 1) For each maturity “m” = 0.25 or 0.5, and business day “u” prior to 2022,
  - a) SOFR swap spread(3 months,u) = LIBOR swap spread(3 months,u) - USD 3-month Spread Adjustment(u)
  - b) SOFR swap spread(6 months,u) = LIBOR swap spread(6 months,u) - USD 6-month Spread Adjustment(u)
- 2) For each maturity “m” = 1 ... 30, and business day “u” prior to 2022,
  - a) SOFR swap spread(m,u) = LIBOR swap spread(m,u) - USD 3-month Spread Adjustment(u)
- d. For a quarterly valuation date in or after 2037, have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank’s SOFR swap spreads), over the prescribed observation period (rolling 15-year period) ending on the last business day of the quarter, as follows:
  - i. For each maturity “m” = 0.25, 0.5, 1 ... 30 years,
    - 1) SOFR swap spread(m,u) = SOFR swap rate(m,u) - Treasury yield(m,u).
2. Calculate historical current swap curves:
  - a. For quarterly valuation date on or before December 2021, average the daily Bank of America current LIBOR swap spread data with the daily JP Morgan current LIBOR swap spread data by maturity over the prescribed observation period (rolling 15 year period).
  - b. For a quarterly valuation date during 2022,
    - i. average the daily Bank of America current LIBOR swap spread data with the daily JP Morgan current LIBOR swap spread data by maturity over the prescribed observation period (rolling 15-year period), to the extent the data continues to be available, and
    - ii. average the daily Bank of America current SOFR swap spread data with the daily JP Morgan current SOFR swap spread data by maturity over the prescribed observation period (rolling 15-year period), once the data becomes available.
  - d. For a quarterly valuation date after 2022, average the daily Bank of America current SOFR swap spread data with the daily JP Morgan current SOFR swap spread data by maturity over the prescribed observation period (rolling 15-year period).
3. Calculate benchmark spreads as the 85% conditional mean for each of the 32 maturity categories (three-month, six-month, one-year, two-year, ... 30-year)
  - a. For a quarterly valuation date on or before December 2021, each LIBOR swap curve maturity calculation shall be using the same business trading days as were used in the 85% conditional mean for long-term bonds spreads.
  - b. For a quarterly valuation date during 2022, each swap curve maturity calculation shall be using the same business trading days as were used in the 85% conditional mean for long-term bonds spreads, where
    - i. LIBOR swap curve calculations shall be performed to the extent the data continues to be available, and
    - ii. SOFR swap curve calculations shall be performed once the data becomes available.
  - c. For a quarterly valuation date after 2022, each SOFR swap curve maturity calculation shall be using the same business trading days as were used in the 85% conditional mean for long-term bonds spreads.

4.4. Publish the Long-Term Benchmark Swap Spreads in a table.

Among tables published on the NAIC website (See Subsection H):

a. Table J shows Long-Term Benchmark Swap Spreads.

- i. For valuation dates during 2022, publish LIBOR swap spreads to the extent the data is still available, publish SOFR swap spreads once the data becomes available, and clarify in each column of published long-term swap spreads whether the spreads are LIBOR swap spreads or SOFR swap spreads.
- ii. For valuation dates after 2022, indicate in the publication that these spreads are SOFR swap spreads.