**MEMORANDUM**

TO: Life Actuarial (A) Task Force

FROM: Pat Allison, NAIC Staff

DATE: November 17, 2022

RE: Recommended replacement related to APF 2022-04 Swap Spreads and LIBOR transition to SOFR

**Background**

The purpose of this memo is to recommend: 1) LATF adoption of Secured Overnight Financing Rate (SOFR) swap spreads as the replacement for LIBOR swap spreads effective 12/30/22, which is the last business day coincident with or preceding 12/31/22 (which is a Saturday) so that prescribed spreads as of 12/31/22 (which equal those on 12/30/22) are based on the approach specified in this memo; 2) The approach to be used in calculating current and long-term swap spread curves as of 12/30/22; and 3) Technical implementation details as recommended by the American Academy of Actuaries. These recommendations are consistent with APF 2022-04 (which is effective for the 2023 *Valuation Manual*), which identifies the SOFR as the replacement for LIBOR, and the VM-20 Section 9.F.8.d Procedure for Setting Prescribed Gross Asset Spreads, cited below:

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 London Interbank Offered Rate (LIBOR) spreads over Treasuries. When the NAIC determines LIBOR is no longer effective, the NAIC shall recommend a replacement to the Life Actuarial (A) Task Force which shall be effective upon adoption by the Task Force.

The last sentence above notes that the NAIC shall recommend “a replacement”, which indicates an intent to replace the prescribed current and long-term swap spread curves with a single replacement, as opposed to continuing the NAIC’s prescription of LIBOR beyond the adoption date.

**Determination that LIBOR is no longer effective**

The Alternative Reference Rates Committee’s November 9 Meeting Readout highlighted continued progress in the transition from LIBOR to SOFR, with SOFR predominant across derivatives markets. Specifically, SOFR swaps have accounted for more than 90 percent of daily volumes on average of interest rate risk traded in the outright linear swaps market for the last two months while LIBOR swaps accounted for less than 4 percent of the overall volume in October. Based on this information, NAIC staff has determined that LIBOR is no longer effective.

Actuarial judgment may be required in the use of prescribed swap spreads (for example, in the case where companies have a combination of SOFR and LIBOR-based swaps). VM-20 Section 9.F.8.d states, in part “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…” (emphasis added).

**Recommended Replacement for Current Benchmark Swap Spreads**

Effective December 30, 2022, NAIC staff recommends that for each month-end date, LIBOR swap spreads shall be replaced with SOFR swap spreads[[1]](#footnote-1):

* + 3-month LIBOR spread should be replaced with 3m SOFR swap[[2]](#footnote-2) spread
	+ 6-month LIBOR spread should be replaced with 6m SOFR swap spread
	+ 1-year swap spread should be replaced with 1yr SOFR swap spread
	+ …
	+ 30-year swap spread should be replaced with 30yr SOFR swap spread

**Recommended Replacement for Long-Term Benchmark Swap Spreads**

Effective December 30, 2022, NAIC staff recommends the following approach for the calculation of long-term benchmark swap spreads, consistent with APF 2022-04:

1. Extract daily swap spread data over the prescribed observation period (rolling 15-year period) ending on the last business day of the quarter from at least two reputable data sources. If the data source provides swap rates rather than swap spreads, convert the daily swap rate for each maturity to a swap spread by subtracting the corresponding maturity Treasury yield from the swap rate.
2. Calculate SOFR swap spreads as follows for the last business day “u” of 2022, where “u” is the 12/30/22 effective date of the adoption by the Life Actuarial (A) Task Force of SOFR swap spreads as the replacement for swap spreads previously prescribed:
	1. For each maturity “m” = 0.25, 0.5, 1 … 30 years, and business day “u”:

SOFR swap spread(m,u) = SOFR swap rate(m,u) - Treasury yield(m,u).

1. Calculate SOFR swap spreads as follows for each business day before the 12/30/22 effective date of the adoption by the Life Actuarial (A) Task Force of SOFR swap spreads as the replacement for swap spreads previously prescribed, utilizing Bloomberg’s 2021-03-05 published USD Spread Adjustments:
2. For each maturity “m” = 3 or 6 months, and business day “u”,
	* 1. SOFR swap spread(3 months,u) = LIBOR swap spread(3 months,u) - 0.26161% (the USD 3-month Spread Adjustment)
		2. SOFR swap spread(6 months,u) = LIBOR swap spread(6 months,u) - 0.42826% (the USD 6-month Spread Adjustment)
	1. For each maturity “m” = 1 … 30 years, and business day “u”:

SOFR swap spread(m,u) = LIBOR swap spread(m,u) - 0.26161% (the USD 3-month Spread Adjustment)

1. Average the swap spread data from the data sources by maturity over the prescribed observation (rolling 15-year period).
2. Calculate the Long-Term Benchmark Swap Spreads as the 85% conditional mean for each of the 32 maturity categories (three-month, six-month, one-year, two-year, … 30-year) using the same business trading days as were used in the 85% conditional mean for long-term bonds spreads.
3. Publish the Long-Term Benchmark Swap Spreads in a table. Among tables published on the NAIC website (See Subsection H), Table J shows Long-Term Benchmark Swap Spreads

In Table J, NAIC staff shall clarify that from 12/31/22 forward, prescribed current and long-term benchmark swap spreads are SOFR swap spreads. [Drafting Note: The tables will be labeled to indicate they contain SOFR swap spreads.

**Technical Implementation Details**

NAIC staff recommends that implementation of prescribed current and long-term benchmark SOFR swap spreads be based on guidance included in a November 17, 2022 comment letter to LATF from the American Academy of Actuaries. The Academy letter provides technical details on the calculation of treasury par yield curve rates, as well as prescribed swap spread calculations and their publication. The letter outlines three alternative approaches to handle inconsistencies in the historical swap spreads. NAIC staff recommends alternative #2, which is recommended by the Academy in such comment letter. This would mean that for purposes of calculating long-term swap spreads, historical current swap spreads would be recalculated for December 31, 2021 through December 29, 2022, but only to remedy the inconsistency where spreads were a 50/50 blend of LIBOR swap spreads and SOFR swap spreads.

1. 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 from the LIBOR swap. [↑](#footnote-ref-1)
2. 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. [↑](#footnote-ref-2)