GOES Field Test #2: YE2023 SERT Preliminary Observations / Concerns

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Preliminary Observations – Interest Rate Scenarios

- The SERT interest rate scenarios may be illustrating some of the consequences of underlying stochastic interest rate model limitations and/or calibration issues. E.g.,

  - High short rate vols

  - Frequent and pervasive flooring even in "moderately adverse" portions of the distribution

  - Persistent and severe inversions

- SERT specific workarounds (e.g., changing the scenario definitions and/or pass thresholds) would not address the underlying model / calibration issues or their effects on the stochastic reserves and capital.

  - Recommend continued research into future model and calibration improvements even if / after the GOES scenarios are adopted (vs. waiting for the next [5?]-year review)

- The SERT scenario implementation is still under review
- Examples of YE2023 scenario concerns are provided in **FI2 2023_Preliminary Observations_2024 03 26.pptx** (posted to GOES SharePoint Oth

Scenario 12: Deterministic Reserve (DR) Scenario

- The DR scenario is designed to represent a moderately adverse scenario. Rates are assumed to decline over 20 years to a 1 standard deviation level before mean reverting.

- For some products, DR may directly drive VM20 reserves.

- Because of the underlying stochastic model and calibration, FT#2 DR produces rapidly declining and persistent low rates for shorter maturities. [See slide 4 for graphs.]

Scenario 12: Deterministic Reserve (DR) Scenario

Scenario 9: Baseline Scenario

- **Yield curve inversions are typically episodic events that occur for relatively short periods rather than persistent trends.**

[Scenario 1 vs. 13 Popup vs. Delayed Popup Scenario Question]

- **VM20 definitions:**
  - SERT #1 – Popup: "Interest rate shocks are selected to maintain the cumulative shock at the 90% level (1.282 standard errors)."
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Appendix: SERT Scenarios – UST 20Y

- Graphs visualizing stylistic SERT scenario patterns. (Not for GOES vs. AIRG comparisons)