

The banner features a central grayscale image of a classical building facade with two large arched windows. On the left, a yellow-bordered box contains the text '2017 SOA Valuation Actuary Symposium'. On the right, a black box contains the text 'Aug. 28-29, 2017 San Antonio, TX' in yellow.

2017 SOA  
Valuation Actuary  
Symposium

Aug. 28-29, 2017  
San Antonio, TX

## Session 57PD: Simplified Methodologies Under VM-20: Multi-Risk Scenario Generator Tool Research Project

**Moderator:**

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# 2017 Valuation Actuary Symposium

**STEFANIE J PORTA, ASA, MAAA**

**Simplified Methodologies for Determining  
Reserves Under VM-20 Research Project**

August 29, 2017



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# Background and Purpose

- Smaller Insurance Companies may want alternative to reserves using Company-wide Exemption
- Exemption may force higher reserves
- Non-election of Company-wide Exemption may be too labor-intensive for the resources available
- Goal was to develop less intensive methodologies
- Simplified methodologies were needed that comply with VM-20

# Research Project Key Elements

- Proposal was required to explore possible simplifications, approximations, and modeling efficiency techniques allowed under VM-20 for determining statutory reserves for life insurance, including term and UL without secondary guarantees.
- Smaller Insurance Company Section Research Project, with Co-Sponsors Modeling Section, Financial Reporting Section, and Committee on Life Insurance Research

# Development of Multi-Risk Scenario Generator

- Will be available on the Society of Actuaries webpage
- Open code, well-documented
- Fully stochastic scenarios, calculating CTE 70 reserve
- Adjustment based on the variance of the CTE estimator (the fewer scenarios, the higher the CTE estimator)
- Simplification comes in because the CTE 70 reserve becomes the VM-20 reserve, and other calculations (NPR, DTR) not required

# Scenario Generator Output

- Objectivity measure for the best estimate assumptions
- Probability and Credibility-based ranges for each assumption tested
- Scenario reduction techniques to select ideal subset of larger set of scenarios

# Sections of VM-31 where Multi-Risk Scenario Generator Output Can Be Used

- VM-31 Section 3.C. 5.
- Description of the risks deemed material by the qualified actuary for the sub-report's group of policies
- Multi-Risk Scenario Generator can Identify and Measure the Risk
- Gives rationale for determining that a risk is material

# Sections of VM-31 where Multi-Risk Scenario Generator Output Can Be Used

- VM-31 Section 3.D. 2.e.
- Description of approach and rationale used to validate model calculations within each model segment (DTR, SR)
- Evaluation for appropriateness and applicability, compare to historical experience, what risks not included, material limitations of model
- Correlation of risks in margins

# Project Timeline

- Goal is to have the Multi-Risk Scenario Generator available for SOA member use before Year End 2017
- Feedback has been received regarding statistical calculations
- Feedback is being sought from regulators
- Support has been given by LIMRA, MIB
- POG continues to monitor, beta-test, support



# Researcher Team

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