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Principle Based Reserves Reporting and Disclosure

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Presentation Overview

- 1. Introduction**
- 2. PBR Actuarial Report (VM-31)**
- 3. Board Summary Report**
- 4. What regulators have looked for in Reports**
- 5. Sources for further information**

Introduction

PBR Valuation and the Regulator

- ▶ Prior to PBR, it was difficult for regulations to fit complex benefit designs
 - Address with Actuarial Guidelines (AG)
 - An AG can still lag the product innovation
- ▶ PBR is responsive/dynamic by means of the Valuation Manual together with its amendments

Valuation Manual (VM)

Latest Edition – January 1, 2019

- ▶ VM gives details and requirements supporting PBR
- ▶ Continues to evolve through Amendments
- ▶ VM Section 31 outlines the reporting requirements
- ▶ VM Section G requires a qualified actuary to produce a Board Summary Report

Does my company need to report PBR?

Life PBR Exemption

(Section II Reserve Requirements subsection D.)

- a. **Less than \$300m of ordinary life premiums**
(Group of life insurers less than \$600m),
- b. **Adjusted Capital 450% of authorized control level RBC,**
- c. **Appointed Actuary provides unqualified opinion, and**
- d. **Universal Life with Secondary Guarantee (ULSG) issued or assumed meets definition of *non-material secondary guarantee*.**

Company Activity – 2017 PBR Reports

PBR Actuarial Reports	
Product	Number
Term	20
ULSG	6
WL	3

Regulator Activity – 2017 PBR Reports

- ▶ **Written Questions from DOI**
 - ▶ CA took leading role in conjunction with Domestic Regulator
 - ▶ 80 – 90 questions quite common
 - ▶ 30 – 40 follow-up questions to company response quite common
 - ▶ Summary of findings sent to company management
- ▶ **On-site Visits**
 - ▶ For approximately half of companies
 - ▶ Other half, a likely visit based on 2018 Report
 - ▶ Controls: Focus on Governance (Corporate and Model)
 - ▶ Verification: Focus on compliance with VM-20 and VM-31 requirements

PBR Actuarial Report (VM-31)

VM-31 Report

Report title: PBR Actuarial Report Requirements for Business Subject to a PBR Valuation

- Example Sections
 - Executive Summary
 - Assumptions and Margins
 - Cash Flow Models
 - Reinsurance
 - Exclusion Tests
 - Sensitivity Tests
 - Certifications

VM-31 Report

- ▶ Regulators may also be looking for completion of Excel templates for:
 - ▶ Assumptions
 - ▶ Riders and Supplemental Benefits
 - ▶ Company Experience Studies

VM-31 Report

1. ASSUMPTIONS

Free Format

2. RIDERS

Rider or Supplemental Benefit Name	Description of Coverage Provided	Products to which it is Attached	Reserve Methodology Used	VM Section II, Riders and Supplemental Benefits, D.1 (True/False or N/A)	VM Section II, Riders and Supplemental Benefits, D.2 (True/False)	VM Section II, Riders and Supplemental Benefits, D.3 (True/False)	Indicate whether each reserve was valued with the base policy (Yes/No)		
							NPR	DR	SR

3. STUDIES

Company Experience Studies								
Company Name:							Valuation Year:	
NAIC Company Code:								
			Study Observation Years		Policy Issue Years Included			
1	2	3	4	5	6	7	8	9
VM-20 Product Group	Risk Factor	Year Study was Performed	First Year	Final Year	First Year	Final Year	Length of Lag Time Used to Allow for Events Reported After the Study Period (Months)	Comments

Board Summary Report

VM-G: Requirements

VM-G: Corporate Governance Guidance for PBR

Guidance for oversight function provided for:

- ▶ **Board of Directors** is responsible for review of reports including the certification of the effectiveness of internal controls
- ▶ **Senior Management** is responsible for oversight of the principle-based actuarial functions
- ▶ **Qualified Actuary** is responsible for overseeing the calculation of principle-based reserves and the responsibility for providing a summary report to the board

Board Summary Report

- ▶ Qualified Actuary's Report to the board and to senior management
- ▶ Requires descriptions of the following key topics:
 - Valuation processes used to determine and test PBR
 - Principle-based valuation results
 - General level of conservatism incorporated into PBR
 - Materiality of PBR in relationship to the overall liabilities
 - Significant and unusual issues and/or findings
- ▶ Regulator very likely to request a copy

What Regulators Have Looked for in Reports

Regulator Questions

GOVERNANCE (Committees, Standards, Procedures, and Controls)

- ▶ Has the company formally developed, documented, and adopted a corporate governance framework for its principle-based valuation under VM-20? Please provide the details of such a framework.
- ▶ Identify any PBR-related areas impacted by resource limitations (e.g., time or personnel) and how the company plans to address such limitations.
- ▶ For the Board of Directors, Senior Management, and Qualified Actuary, please separately document how each responsibility listed in VM-G has been adequately fulfilled.

Regulator Questions

RESOURCES

- ▶ How frequently and by whom will the factors used to establish principle-based reserves, such as key risk and experience reporting elements, be reviewed?
What are the qualifications of the staff assigned to this task?
- ▶ At year end, how much time was allotted to analyzing results of the principle-based valuation under VM-20? How is the analysis of results documented?
- ▶ Please describe any significant changes in the company's underwriting guidelines and practices over the past three years, including any table-shaving programs. How often are reviews performed to assure that underwriters are adhering to underwriting rules, and what were the results of the last such audit?

Regulator Questions

MATERIALITY

- ▶ An item often missed in reports; note that assumptions considered material are listed in VM-20 Section 9.B.1
- ▶ Please elaborate on your materiality determination. Materiality with respect to the PBR portfolio is defined as items that could have an impact of x.x% or more on the total company reserves.
- ▶ Why is this materiality standard appropriate for PBR, in light of its nature as an emerging risk? Is a secondary materiality threshold applied? With growing PBR business, is there a plan to further standardize the measure?

Regulator Questions

MORTALITY

- ▶ In Excel format, provide complete listings of the anticipated experience mortality assumptions and margins that comprise the prudent estimate assumptions for all ages, durations, risk classes and product groups.
- ▶ Describe any adjustments made in the modeling of deterministic reserves for substandard cases. What percentage of business issued was substandard?

Regulator Questions

MORTALITY (cont.)

- ▶ Provide a copy of the input that was supplied to the RR Tool that resulted in the relative risk scores for all underwriting classes. Did the company consider any other basis for reviewing appropriate RR tables, such as reinsurer data for similar business?
- ▶ Discuss the considerations in the establishment of the mortality margin used, including if an additional margin beyond the prescribed margin was considered.
- ▶ In Excel format, demonstrate that deaths were conserved.

Regulator Questions

LAPSE

- ▶ In Excel format, provide any summarized lapse data demonstrating how the results from the company lapse study informed the final anticipated experience assumption.
- ▶ For term, provide a demonstration that the post-level periods would have generated profits, not losses. The requirement is on a per policy basis.
- ▶ Discuss any considerations in the establishment of the anticipated experience assumption for lapses; include considerations of internal factors, such as company approaches to underwriting, attitudes towards internal replacement programs, as well as external factors, such as tax law.
- ▶ Note: The Regulator often considered the lapse margin to be too low.

Regulator Questions

EXPENSE

- ▶ Provide detail and justification for the expense assumption being appropriate.
- ▶ How often does the company perform expense studies, and what were the results for maintenance costs per policy of the last such study?
- ▶ Please provide the rationale for the inflation assumption, including the source or method for the assumption.

POLICYHOLDER BEHAVIOR

- ▶ For term policy conversions, provide a complete listing of the anticipated experience assumptions and margins that comprise the prudent estimate assumption as to frequency and cost; in particular, discuss any experience studies performed, or sources of data if experience studies were not performed.

Regulator Questions

ASSETS

- ▶ How does the company handle embedded options in assets within the cash-flow model for deterministic and stochastic reserve calculations? Does the company model these features internally, or use a vendor?
- ▶ Are there any hedging programs or derivative programs in place supporting term life?
- ▶ Is the reinvestment strategy consistent with the company's actual investment strategy? Documentation supporting this was often missed.
- ▶ Note: Be prepared to explain any unusual pattern in the net asset earned rate.

Regulator Questions

REINSURANCE

- ▶ Looking for details of reinsurance agreements.
- ▶ Demonstrate how the credit for reinsurance (defined as the excess, if any, of the pre-reinsurance-ceded minimum reserve over the post-reinsurance-ceded minimum reserve) was allocated to each policy.
- ▶ In developing the future reinsurance premium assumption, did you assume that the moderately adverse scenario reflected adverse mortality: (1) only for the block of business being considered under PBR, (2) for all of the Company's business, or (3) for all of the industry?
- ▶ In developing the future reinsurance premium assumption, did you assume that the reinsurer would accept losses under the treaty for more than three years? If so, why?

Regulator Questions

EXCLUSION TESTS

- ▶ Comment on the choice of the Certification Method for passing the SET. Did the Company attempt either the Ratio Test or Demonstration Method to pass the SET prior to opting to utilize the Certification Method?

NPR AND DETERMINISTIC RESERVE

- ▶ In Excel format, provide a full list of policies and all corresponding policy data, including product type, face amount, term length, issue age, issue year (2017 or 2018), sex, underwriting type (AUW or FUW), and risk class.
- ▶ In Excel format, provide all periodic cash flows supporting the calculation of the deterministic reserve, including premiums, death claims, expenses, commissions, and reinsurance.

Regulator Questions

MODEL GOVERNANCE

- ▶ Has the company formally developed, documented, and adopted a model governance framework? Please provide the details of such a framework and the development process to create it.
- ▶ Has the company carefully considered all items in the Academy's Model Governance Checklist and Model Governance Practice Note in the development and implementation of its model governance practices?

Regulator Questions

DOCUMENTATION

- ▶ Has the company established and adopted model documentation standards? Provide the model validation checks/documents.
- ▶ It is suggested that a PBR process flow diagram be created.

TRAINING

- ▶ What is the training process to ensure developers, reviewers, stewards, and end-users are adequately knowledgeable of model use and processes? Describe any formal or informal training programs, user manuals, or documents that exist.
- ▶ What processes are in place to identify, correct, prevent, and mitigate model errors?

Regulator Questions

MODEL FORMULAS AND CODE

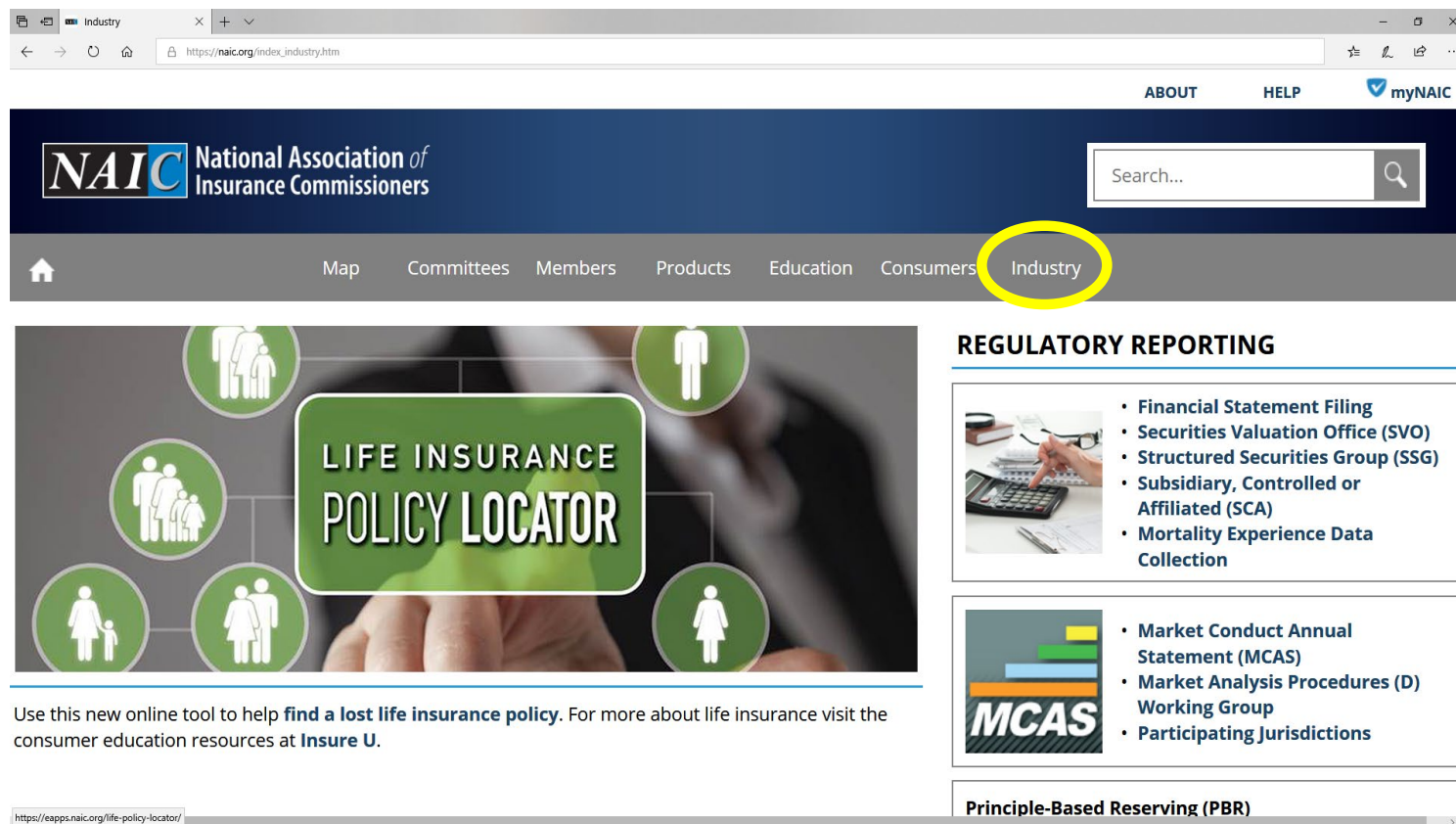
- ▶ Describe any spreadsheet or other software tools, programs, or functions (e.g. pre-processing or post-processing tools) the company used to support the PBR valuation.

MODEL OUTPUTS AND REPORTS

- ▶ Provide any reports, either system-provided sample reports or user-designed reports, for the Net Premium Reserve and Deterministic Reserve results.
- ▶ Discuss all reconciliation of results done against projections performed for other purposes, such as asset adequacy testing.
- ▶ Discuss the number of reviewers, and the roles of the parties responsible for such reviews. Internally, is there a formal sign-off on the results by the responsible parties?

Sources for Further Information

NAIC Website



The screenshot shows the NAIC website interface. The browser address bar displays https://naic.org/index_industry.htm. The top navigation bar includes links for ABOUT, HELP, and myNAIC. The main header features the NAIC logo and the text "National Association of Insurance Commissioners". A search bar is located on the right. Below the header, a horizontal menu contains links for Map, Committees, Members, Products, Education, Consumers, and Industry. The "Industry" link is highlighted with a yellow circle. The main content area is divided into two columns. The left column features a large graphic with the text "LIFE INSURANCE POLICY LOCATOR" and a description: "Use this new online tool to help find a lost life insurance policy. For more about life insurance visit the consumer education resources at Insure U." The right column is titled "REGULATORY REPORTING" and lists several categories: Financial Statement Filing, Securities Valuation Office (SVO), Structured Securities Group (SSG), Subsidiary, Controlled or Affiliated (SCA), Mortality Experience Data Collection, Market Conduct Annual Statement (MCAS), Market Analysis Procedures (D) Working Group, and Participating Jurisdictions. At the bottom, there is a link to the Principle-Based Reserving (PBR) section.

Industry

NAIC National Association of Insurance Commissioners

Search...

Map Committees Members Products Education Consumers Industry

LIFE INSURANCE POLICY LOCATOR

Use this new online tool to help find a lost life insurance policy. For more about life insurance visit the consumer education resources at Insure U.

<https://eapps.naic.org/life-policy-locator/>

REGULATORY REPORTING

- Financial Statement Filing
- Securities Valuation Office (SVO)
- Structured Securities Group (SSG)
- Subsidiary, Controlled or Affiliated (SCA)
- Mortality Experience Data Collection

MCAS

- Market Conduct Annual Statement (MCAS)
- Market Analysis Procedures (D) Working Group
- Participating Jurisdictions

Principle-Based Reserving (PBR)

NAIC Website - VM Resources

Industry

https://naic.org/index_industry.htm

consumer education resources at insure U.

INDIVIDUAL/COMPANY LICENSING & FILING

National Insurance Producer Registry (NIPR)
Tools to make the producer licensing process more efficient and uniform. Includes the Producer Database and Appointments and Terminations.

State Licensing Handbook
This handbook is based on the Producer Licensing Model Act (MDL-218), the Uniform Resident Licensing Standards and other guidelines.

UCAA — Uniform Certificate of Authority Application
Includes links to UCAA applications, instructions, individual state requirements, forms, training resources and FAQs.

Company Code Application (PDF)
Apply for an NAIC company code number

Rates and Forms Filing — Speed to Market

Speed to Market Filing Suggestion Form (PDF)
Click the above link to propose enhancements to NAIC's Speed to Market Filing initiatives.

System for Electronic Rate and Form Filing (SERFF)
A web-based electronic filing system designed to improve the efficiency of the rate and form filing and approval process.

RATE & FORM FILING

State Rate and Form Filing Review Requirements

Principle-Based Reserving (PBR)

VM-20 / VM-22 Current Year Tables

- VM-20 Tables A and F - K
- VM-22 Valuation Interest Rates and Appendices

VM-20 / VM-22 Data Archive

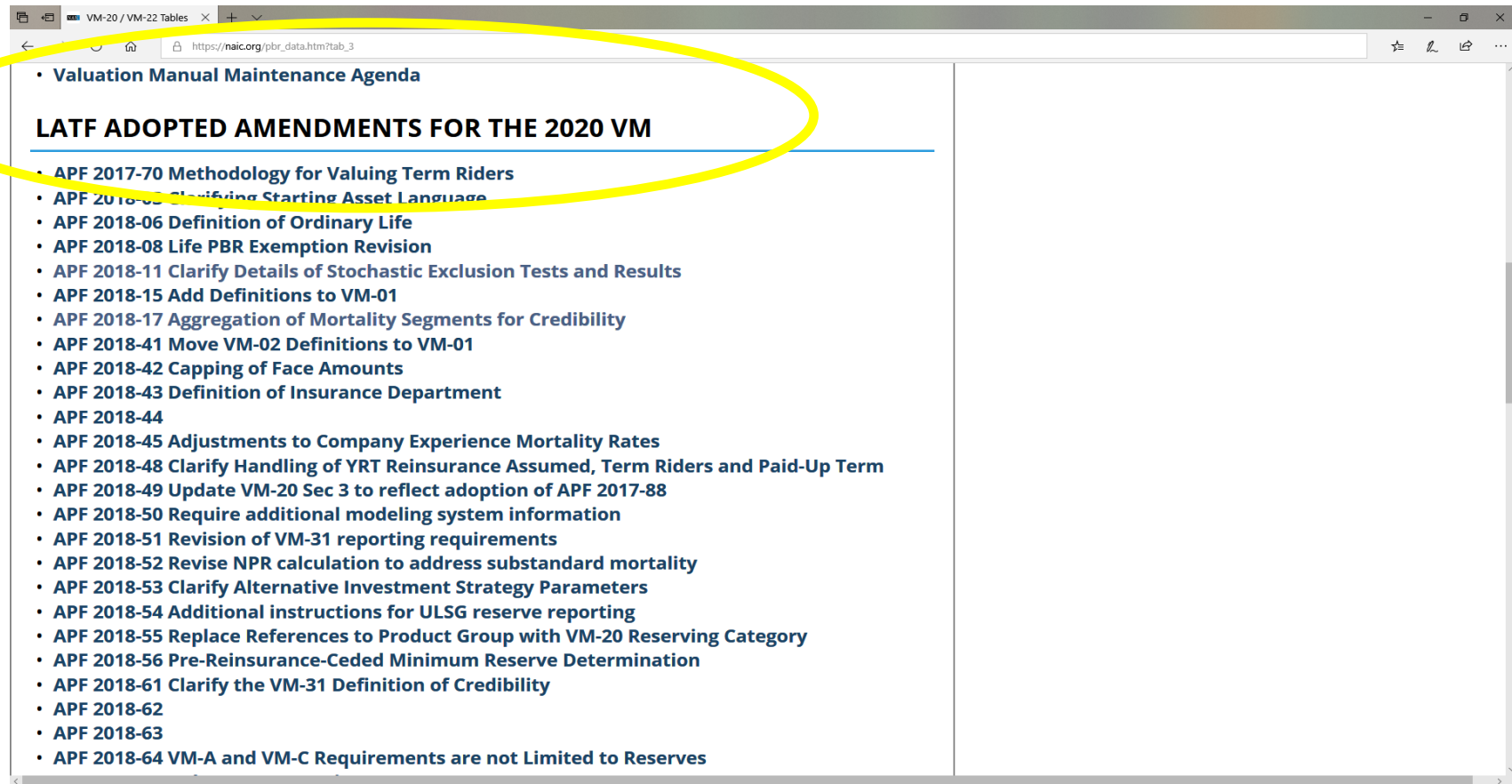
- VM-20 Tables A and F - K
- VM-22 Valuation Interest Rates
- SOA Mortality Tables
- New York Guidance Letter (Valuation and Non-Forfeiture Rates)

Valuation Manual (VM) Versions

- 2019 Edition - Valuation Manual
- 2019 Edition - Valuation Manual - Redlined
- 2018 Edition - Valuation Manual
- 2018 Redlined Edition - Valuation Manual
- 2017 Valuation Manual
- 2016 Valuation Manual
- Valuation Manual Maintenance Agenda
- LATF Adopted Amendments for the 2020 VM

NAIC ACCOUNT MANAGER

NAIC Website - VM Amendments

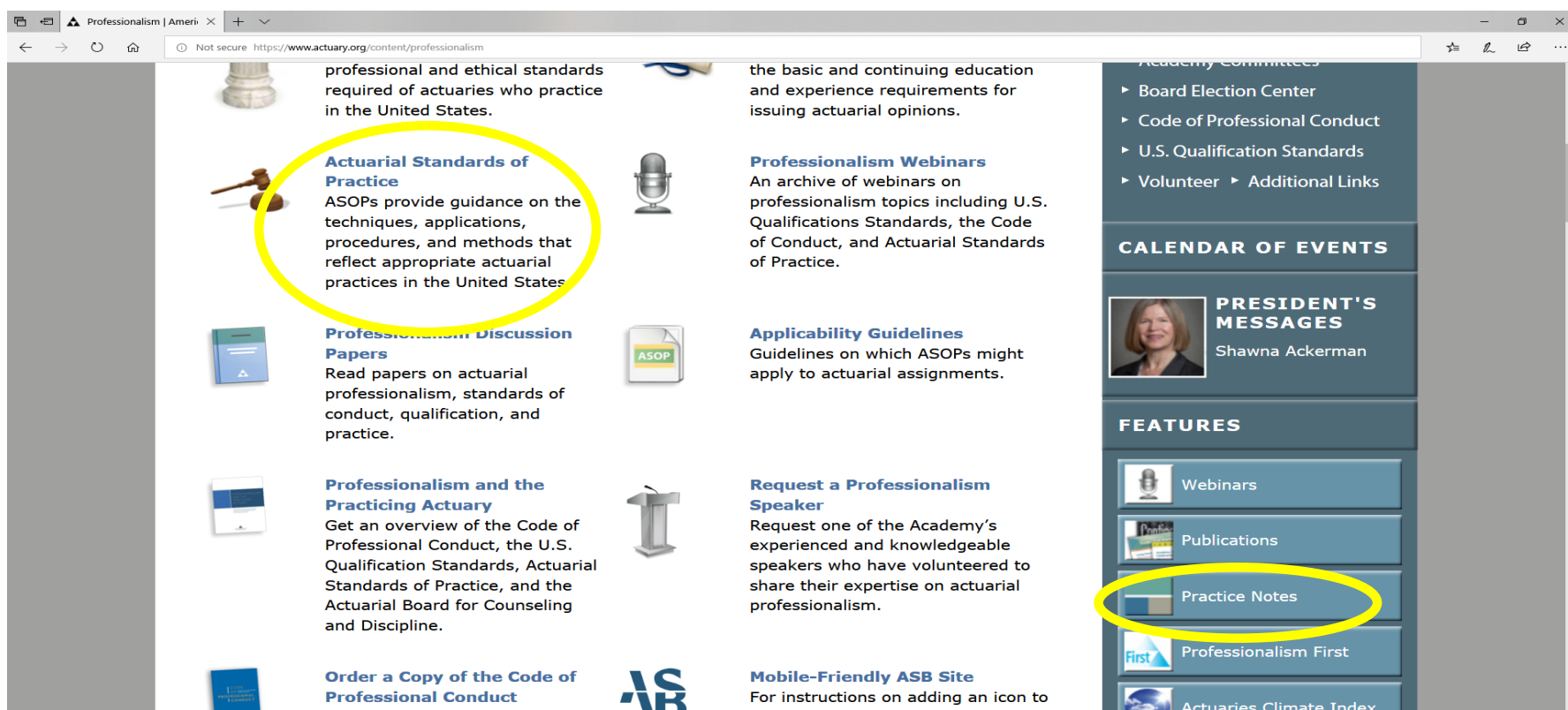


• Valuation Manual Maintenance Agenda

LATF ADOPTED AMENDMENTS FOR THE 2020 VM

- APF 2017-70 Methodology for Valuing Term Riders
- APF 2018-03 Clarifying Starting Asset Language
- APF 2018-06 Definition of Ordinary Life
- APF 2018-08 Life PBR Exemption Revision
- APF 2018-11 Clarify Details of Stochastic Exclusion Tests and Results
- APF 2018-15 Add Definitions to VM-01
- APF 2018-17 Aggregation of Mortality Segments for Credibility
- APF 2018-41 Move VM-02 Definitions to VM-01
- APF 2018-42 Capping of Face Amounts
- APF 2018-43 Definition of Insurance Department
- APF 2018-44
- APF 2018-45 Adjustments to Company Experience Mortality Rates
- APF 2018-48 Clarify Handling of YRT Reinsurance Assumed, Term Riders and Paid-Up Term
- APF 2018-49 Update VM-20 Sec 3 to reflect adoption of APF 2017-88
- APF 2018-50 Require additional modeling system information
- APF 2018-51 Revision of VM-31 reporting requirements
- APF 2018-52 Revise NPR calculation to address substandard mortality
- APF 2018-53 Clarify Alternative Investment Strategy Parameters
- APF 2018-54 Additional instructions for ULSG reserve reporting
- APF 2018-55 Replace References to Product Group with VM-20 Reserving Category
- APF 2018-56 Pre-Reinsurance-Ceded Minimum Reserve Determination
- APF 2018-61 Clarify the VM-31 Definition of Credibility
- APF 2018-62
- APF 2018-63
- APF 2018-64 VM-A and VM-C Requirements are not Limited to Reserves

Academy Website



ASOP No. 52 – December 31, 2017

Principle-Based Reserves for Life Products under the NAIC Valuation Manual

- ▶ **Section 2: Definitions**
 - Definitions focused on VM-20 terminology
- ▶ **Section 3: Analysis of Issues and Recommended Practices**
 - Assumptions and Determining Margins (Section 3.4.2)

Practice Notes

- ▶ **PBR Assumptions Resource Manual (March 2019)**
- ▶ **Life PBR Under VM-20 (January 2019)**
- ▶ **Model Governance (April 2017)**
- ▶ **Credibility (July 2008)**

THANK YOU