

# **Introduction to PBA:**

**An Overview of a Principle-Based Approach  
to Reserves and Capital in the U.S.  
for Life and Annuity Products**

**September 2009**



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An Overview of a Principle-Based Approach to Reserves & Capital  
September 2009

# Introduction to PBA

- History of Reserves and Capital (U.S.)
- The Case For Change
- The Solution – A Principle-Based Approach (PBA)
- PBA Development and Implementation
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# Introduction to PBA

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# History of Reserves and Capital (U.S.)

## Reserve Valuation – Historical

- 1858 Massachusetts Legislation
- Commissioner to calculate reserves on all policies of all licensed companies
- Actuary Elizur Wright was appointed commissioner
- Wright selected Net Level Premium Reserve Method and Combined Experience (1843 British) Mortality Table and 4% Interest Rate



# History of Reserves and Capital (U.S.)

## Reserve Valuation – Historical

- Very little change in valuation process for last 150 years
- Minimum reserve is based on a formula with prescribed mortality and interest
- IRS tax deductible reserves have been engineered with the same formulaic approach
- No actuarial judgment allowed in determining the minimum
- In 1990s, Asset Adequacy Analysis added to test the adequacy of the formulaic reserve in light of the supporting assets



# History of Reserves and Capital (U.S.)

## Reserve Valuation – Current

- Governed by the Standard Valuation Law, with supporting regulations and Actuarial Guidelines
- Generally, minimum reserve standards have been established to be sufficient to cover future claims 75%-85% of the time
- Subject to an Actuarial Opinion signed by a qualified actuary
- Opinion supported by Asset Adequacy Analysis, which is a principle-based analysis of the reserves in light of the assets
- Asset Adequacy Analysis is calculated in the aggregate and defines a floor (i.e., only impacts reserve if a deficiency is discovered)
- Valuation is currently formula-based for most products
- Model-based for VAs (AG VACARVM)
  - The first step away from the traditional formulaic approach to calculating reserves



# History of Reserves and Capital (U.S.)

## Risk-Based Capital (RBC) – Historical

- Originally, states only specified minimum surplus requirements to start a company
- Later added solvency ratios (IRIS) to monitor companies on an ongoing basis
- Companies and rating agencies began developing risk-based capital (RBC) measures
- The NAIC developed a standardized RBC regime to supplement the IRIS ratios and identify weakly capitalized companies



# History of Reserves and Capital (U.S.)

## Risk-Based Capital (RBC) – Historical

- NAIC RBC primarily formula-driven, derived from data in published statutory statements
- Calculation delineates four categories of risk (C1-C4):
  - Asset default and subsidiary risk (C1)
  - Pricing inadequacy risk (C2)
  - Interest rate mismatch and equity risk (C3)
  - General business risk (C4)
  - Covariance among risk categories is reflected in determination of total capital requirements
- Calculation emphasizes solvency and the identification of weakly capitalized companies



# History of Reserves and Capital (U.S.)

## Risk-Based Capital (RBC) – Current

- RBC statute references NAIC RBC Instructions for specific methodology and factors, promoting uniformity across states
- Generally, minimum capital requirements are expected to be sufficient to protect insurer solvency 95% of the time
- RBC Ratio of actual to required capital determines regulatory action
- Formula-based for C-1, C-2 and C-4
- Model-based for C-3 for VAs and certain fixed annuities
  - C-3 Phase I – addressed interest rate risk on certain fixed annuities
  - C-3 Phase II – addressed interest rate and equity risk for VAs
  - The first steps away from a traditional formulaic approach to calculating RBC



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# The Case For Change

## Why A Formulaic Approach Used To Work

For decades, a formulaic approach worked well to establish reserve and capital requirements

- Asset and liability portfolios were relatively “vanilla”
- Products between companies were relatively homogenous with somewhat basic features, resulting in similar risk profiles between companies
- Prescribed valuation assumptions were set at conservative levels, producing reserve and capital levels far in excess of the typical company’s actual risk profile
- Required reserve and capital values were relatively easy for regulators to audit and monitor



# The Case For Change

## Prescription

### A Formula-Based Approach Relies On Prescription

- Prescribed formulas
- Prescribed assumptions
- Prescribed caps/floors
- Prescribed guidelines
- Prescribed testing



# The Case For Change

## Shortcomings Of A Formula-Based System

- Relies on a static formula that may not capture all the risks of the contract
- Requires regulatory and/or legislative action to make adjustments for new products or economic developments
- Follows a “one size fits all” approach by using prescribed assumptions, regardless of differences in company risk profiles
- Severely restricts the use of actuarial judgment



# The Case For Change

## Concerns With The Current Approach

- Consumers are demanding more complicated and varied product benefits and guarantees
- These enhanced benefits require companies to engage in more sophisticated investment strategies, including hedging strategies
- Advances in technology have allowed companies to increase the complexity of product design with more complex guarantees
- These changes to product offerings and company practices resulted in different risk exposures for insurers on both sides of the balance sheet
- The current formulaic approach does not capture the way most insurers operate



# The Case For Change

## Temporary Regulatory Solutions

- **Fundamental problem**: a static formula cannot properly capture the risk of these new benefits and guarantees or company risk management techniques
- Regulators have attempted to modify the formulaic reserve requirements to address these changes, but with limited success
- Examples of regulatory actions:
  - Regulation ‘XXX’ (Term and UL)
  - Actuarial Guideline 38 (UL with Secondary Guarantees)
  - Actuarial Guideline 39 (Variable Annuities)



# The Case For Change

## The Need for a Permanent Solution

- Current valuation system is broken – regulators have been using “band-aid” formulaic modifications with limited success as new products are developed
- Required reserves are too high for some products and too low for other products, as compared to an economic reserve
- Capital requirements and reserves need to take into account the actual risks of the business practices and products issued by individual companies



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# The Solution – A Principle-Based Approach

## The Beginning Of Change

- Formulaic systems are being gradually replaced with principle-based systems, starting with the products and/or risks that were not appropriately addressed
- First step toward principle-based capital standards was C3 Phase I (2000) and C3 Phase II (2005) requiring company specific, model-based calculations for fixed annuities and VAs, respectively.
- First step toward principle-based reserves was VA CARVM (2009), a framework of company-specific calculations for the valuation of VAs



# The Solution – A Principle-Based Approach

## The Objectives of PBA

- Place greater emphasis on reflecting risks that materialize in “tail” scenarios, where low probability events can have a large impact
- Reflect underlying economics in statutory financials, providing more information and greater insight to readers of financial statements
- Link statutory requirements to company risk management practices
- Allows optimal product price by “right-sizing” the level of reserves
- Eliminate the practice of designing products “around” the regulations
- Facilitate simpler products, satisfying consumer demands with straight-forward designs
- Enhances risk-focused examinations



# The Solution – A Principle-Based Approach

## The Underlying Principles

- Captures all of the identifiable, quantifiable and material risks, benefits, and guarantees associated with the contracts
- Utilizes risk analysis and risk management techniques to quantify the risks; this may include stochastic models
- Allows the use of company experience to establish assumptions for risks over which the company has some degree of control or influence
- Uses assumptions and methods that are consistent with, but not necessarily identical to, those utilized within the company's overall risk assessment process



# The Solution – A Principle-Based Approach

## Emphasizes Process Over Prescription

- Identifying risks
- Generating economic scenarios
- Determining assumptions
- Determining margins
- Modeling and measuring risks
- Sensitivity testing of material risks
- Documenting results and processes



# The Solution – A Principle-Based Approach Integrates Reserves with Management of Business

- Sets reserves and capital requirements that are appropriate, considering unique company risk profiles
- Imposes greater discipline around the valuation and financial reporting process
- Increases communication to management and regulators



# The Solution – A Principle-Based Approach

## Some Observations

- Benefits consumers, companies and regulators
- Is consistent with the global trend toward Enterprise Risk Management
- Relies more on professional actuarial judgment
- Will require a stronger governance process to be in place for companies, auditors, and regulators
- Requires more sophisticated tools and new skill sets for actuaries and regulators



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# PBA Development and Implementation

## PBA Development Stakeholders

- American Academy of Actuaries
- Actuarial Standards Board
- State Regulators / NAIC
- Industry
- Consumers
- Legislators
- U.S. Treasury Department



# PBA Development and Implementation

## American Academy of Actuaries

- Public policy arm of US profession
  - Represents the profession
  - Objective information and analysis
  - Public awareness of the actuary
- Develops professional standards
- Six practice councils – the Life Practice Council is instrumental in the development of PBA as the primary technical architect of the PBA framework



# PBA Development and Implementation

## Actuarial Standards Board

- Establishes and improves Actuarial Standards of Practice (ASOPs), identifying what the actuary should consider, document, and disclose when performing an actuarial assignment
- Reviews and evaluates current and emerging practices
- Determines appropriate guidance
- Obtains input from actuaries and other interested parties
- Publishes standards based on input from actuaries and other interested parties



# PBA Development and Implementation

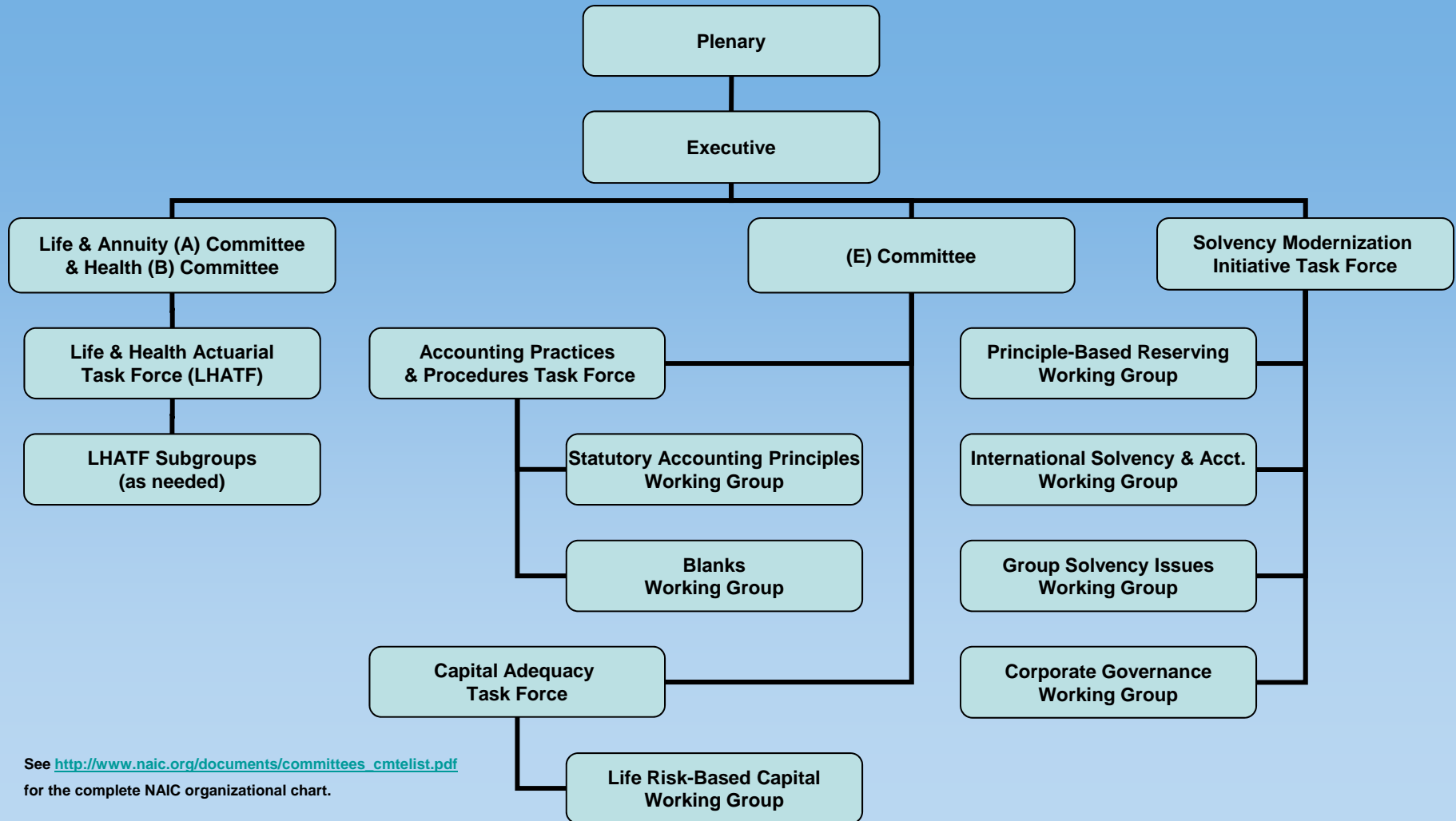
## National Association of Insurance Commissioners (NAIC)

- State Insurance Commissioners are responsible for regulating the business of insurance
- NAIC facilitates state-based regulation
  - Develops model laws and regulations for review and adoption by individual states
  - Accredits insurance departments' regulatory processes
  - Provides expertise, uniformity, resources to state insurance departments
- Operates through a vast committee structure including technical task forces:
  - Life & Health Actuarial Task Force (LHATF) develops reserving requirements
  - Capital Adequacy Task Force (CADTF) develops regulatory capital standards
  - Life Risk-Based Capital Working Group (LRBCWG) within CADTF develops technical capital requirements for life and annuities
- Often responds to technical proposals from the Academy and relies on the Academy and other interested parties for analysis and research



# PBA Development and Implementation

## NAIC PBA Structure



See [http://www.naic.org/documents/committees\\_cmtelist.pdf](http://www.naic.org/documents/committees_cmtelist.pdf) for the complete NAIC organizational chart.



# PBA Development and Implementation

## Industry Participants

- American Council of Life Insurers (ACLI)
  - Most active industry representative
  - Represents 80% of life industry, all sizes of companies
- Affordable Life Insurance Alliance (ALIA)
- Group of North American Insurance Enterprises (GNAIE)
- Accounting profession representatives
- Individual companies (small and large)



# PBA Development and Implementation

## Consumers, Legislators and Treasury

- Consumers
  - Consumer groups offer input regarding individual proposals as well the development process
- State Legislatures
  - Legislatures adopt state-specific versions of model laws promulgated by the NAIC
- U.S. Treasury Department
  - Offers guidance as to how laws and regulations impact tax valuations



# PBA Development and Implementation

## Approach & Milestones

- Modify the Standard Valuation Law (SVL) to enable principle-based reserves (PBR)
  - New SVL references a Valuation Manual (VM)
  - VM will be amended as needed by the NAIC; state legislative action is not required
- Develop detailed reserve requirements in the VM
  - PBA will be implemented in phases
  - PBA will only apply to the specific products as defined in the Scope section of the VM
- Develop principle-based capital requirements
  - Introduce in phases by risk type and product
  - Start with C-3 risk



# PBA Development and Implementation

## Standard Valuation Law (SVL)

- Enables a state to use minimum reserve requirements in the VM for products issued on or after VM operative date
  - Enables PBR for new business while leaving existing structure in place for business already in force on VM operative date
  - Life insurance contracts, annuity and pure endowment contracts, accident & health insurance contracts, and deposit-type contracts for issues on and after VM operative date
  - Both principle-based & non-principle-based reserves
- Authorizes the VM to provide requirements needed for PBR:
  - Minimum reserves
  - Financial reporting
  - Experience reporting
  - Corporate governance



# PBA Development and Implementation

## Standard Valuation Law (SVL)

- Allows the commissioner to engage a qualified actuary for additional analysis or independent peer review at company expense
- Allows the commissioner to require a company to change any assumption or method in order to comply with the requirements of the VM or the SVL
- Allows the commissioner to prescribe specific valuation requirements not provided by the VM or when the VM is not in compliance with the SVL
- Allows the commissioner to establish requirements for companies doing business only in that state (single state exemption)



# PBA Development and Implementation

## Valuation Manual (VM)

- Prescribes uniform reserve requirements and consistency with the Accounting Practices & Procedures Manual (APPM)
- Enables ongoing uniformity of valuation practices across states via VM changes
- Preserves state authority & control
- Provides to all stakeholders the efficiencies of having one set of requirements



# PBA Development and Implementation

## Coordination Among NAIC Groups

- Overall oversight and coordination is being provided by the NAIC Solvency Modernization Initiative Task Force and the NAIC PBR EX Working Group
  - Developing a centralized oversight process to review valuations filed by individual companies
  - Establishing a Statistical Agent function to monitor industry experience
- Statutory Accounting Principles Working Group (SAPWG) is modifying the Accounting Practices & Procedures Manual (APPM) to reference reserve requirements in the VM
- Blanks Working Group and SAPWG are modifying the annual statement blanks to reflect principle-based information
- The E Committee is modifying examination procedures appropriate for principle-based reserves (PBR)



# PBA Development and Implementation

## Efficiencies Desired From VM Approach

- Greater uniformity in state requirements
- Easier implementation of requirements
  - Model rule process replaced by model VM requirements
  - One rule adoption by reference each year in the APPM is more efficient than separate rule adoption for each reserve change



# PBA Development and Implementation

## Outstanding Development Issues

- Determine scope/order of applicability for PBR
- Finalize VM technical details for life insurance including the following:
  - Net premium minimum
  - Actuarial Opinion and Memorandum Regulation revisions
  - Assumptions for default costs, investment spreads
  - Scenario generator process
- Continue work on PBA for other products, such as non-variable annuities and LTC
- Finalize capital requirements for life products (C3 Phase III)
- Finalize disclosure/reporting requirements in blanks
- Determine if modifications to methodology are desirable based on guidance from IRS regarding tax reserve requirements
- Finalize any new ASOPs or practice notes



# PBA Development and Implementation

## Outstanding Implementation Issues

- Pass SVL/VM in each state
- Implement PBA in companies
- Establish auditing standards in public accounting firms
- Establish audit/review processes in states
- Establish NAIC statistical agent
- Establish NAIC centralized review process
- Establish NAIC feedback loop to facilitate review and refinement of PBA



# PBA Development and Implementation

## Keeping Up With The Status

- The NAIC website provides information to help keep up with current exposures and working drafts
  - [http://www.naic.org/index\\_committees.htm](http://www.naic.org/index_committees.htm)
  - Final NAIC Models must be purchased from the NAIC
- The Academy website provides a complete archive of all Academy reports to the NAIC
  - <http://actuary.org/naic/life.asp>



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# Appendix I – Reserve Methodology

## The Basic Framework

- The reserve is the greater of:
  - A **deterministic component** assuming a single economic scenario
  - A **stochastically derived component** using multiple economic scenarios
  
- The following sections of the Valuation Manual contain additional detail regarding methodology:
  - VM-20 Life Insurance
  - VM-21 Variable Annuity
  - VM-22 Non-Variable Annuity



# Appendix I – Reserve Methodology

## The Deterministic Component

- Serves as a floor for the stochastic amount
- Is not designed to capture all risks
- Exact calculation form will differ by product



# Appendix I – Reserve Methodology

## The Stochastic Component

- Closer to a “true” principle-based reserve, since it more adequately captures risks related to the contract
- Multiple economic scenarios are used to capture “tail risk” (risks that could have high impact, but low probability)
- The amounts calculated for each economic scenario are ranked from highest to lowest, and the reserve is determined by taking the average of the highest amounts above a prescribed level, such as 70% (i.e., the average of the highest 30%) also known as “CTE 70” or Conditional Tail Expectation 70



# Appendix I – Reserve Methodology

## Requires A Sophisticated Cash Flow Model

- Cash flow model is needed to project all cash flows arising from the contracts and related assets
- Most companies will probably use their cash flow testing model, with appropriate adjustment to projection assumptions
- Cash flow model is used to determine
  - Liability cash flows (death benefits, surrender benefits, expenses, etc.)
  - Asset cash flows (investment income, asset maturities, asset defaults, etc.)



# Appendix I – Reserve Methodology

## The Assumptions

- Under PBR, valuation assumptions will fall into one of three categories
  - Prescribed Assumptions
  - Stochastically Modeled Assumptions
  - Prudent Estimate Assumptions



# Appendix I – Reserve Methodology

## Prescribed Assumptions

- **Prescribed assumptions** are deterministic assumptions used for risks where the company has very little or no influence or control over the outcome
- For these types of risks, all companies will be required to use the same assumptions



# Appendix I – Reserve Methodology

## Stochastically Modeled Assumptions

- **Stochastically modeled assumptions** are used for risks that are more properly modeled through a stochastic process
- Currently, only interest rate movements and equity returns are required to be modeled stochastically



# Appendix I – Reserve Methodology

## Prudent Estimate Assumptions

- **Prudent estimate assumptions** are used where the company has some degree of influence on the outcome of the risk factor
- Equals the actuary's best estimate of the future (anticipated experience) plus a margin for adverse deviation and estimation error
  - Margins reflect the degree of uncertainty in the anticipated experience assumption
  - Margins provide an element of conservatism
  - Margins can be established for each assumption or in the aggregate
  - Determination of margins can be complicated if there is a lack of credible experience data
  - Determination of margin involves actuarial judgment
- Must be reviewed periodically and updated as appropriate



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# Appendix II – Capital Methodology

## Scope

- The current phase of the principle-based approach for capital involves a review of the interest rate and market risk (C3) component for life products valued under a principle-based reserving approach.
- Scope of the work does not include review of C1, C2 or C4 components
- C-3 Phase III (C3P3) seen as next step toward a future comprehensive principle-based approach to capital



# Appendix II – Capital Methodology

## Scope

- C3P3 capital requirements will apply to all life insurance products inforce
- C3P3 shifts some capital elements within the risk components of RBC, such as shifting requirements for single premium life business from C3P1 to C3P3 and elimination of the expense allowance for variable products within life PBA scope
- Scope of companies and products affected by new capital requirements is influenced by simplified calculation methods
  - Stochastic Exclusion Test
  - Alternative Amount



# Appendix II – Capital Methodology Framework

- Framework developed with substantial consideration of methodologies used for Life PBR, C3P1, C3P2, and International Solvency direction
- C3P3 calculation based on a methodology for C3 requirements common to all products
- C3P3 calculation based on framework and methodology consistent with the calculation of principles-based life reserves, but not identical
  - Uses a cash flow projection model
  - Projects cash flows over a number of economic scenarios
  - Uses prudent assumptions, consistent with, but not identical to valuation assumptions
- Actuarial Certification and Actuarial Report are required
- Anticipated effective date: December 31, 2010



# Appendix II – Capital Methodology

## Determination Process

- Total C3P3 capital is the arithmetic sum of four pieces:

■ Stochastic Exclusion Test	→	Factor-Based Amount	A
			+
■ CTE90 Stochastic Scenario Calculation	→	Stochastic Amount	B
			+
■ Other Equivalent Methods	→	Alternative Amount	C
			+
■ De minimus Blocks	→	<u>Unmodeled Amount</u>	D
		Total C3 Amount	<u>A+B+C+D</u>

- Capital requirements for A, C, and D are based on the current formula factors



# Appendix II – Capital Methodology

## Calculation Basis For Stochastic Amount

- C-3 component of risk-based capital =  $TAR^*$  – statutory value of liabilities included in TAR calculation
- TAR
  - Recommended to be set consistent with capital risk level set for other products (CTE(90))
  - An after-tax calculation reflecting stochastic interest rate and equity scenarios
  - Calculated as the greatest present value of accumulated deficiencies, same as life PBR methodology

\* TAR stands for the total asset requirement



# Appendix II – Capital Methodology

## Key Differences From Reserve Calculation

- Applies to all inforce individual life insurance policies
- No dual-track calculation, as in the life PBR “greater of stochastic or deterministic amount”
- After-tax calculation
- Discounting
- Working Reserve
- Reinvestment Spreads
- Reinsurance Credit
- Stochastic Modeling Alternative (Alternative Amount)



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# Appendix III – U.S. vs. International

## U.S. and International Frameworks

- PBA approach contains many elements likely to be included in most regulatory reforms (US and global)
- U.S. has taken a bottoms-up approach; EU has taken a top-down approach:
  - Concepts are similar; differences arise in implementation
  - Generally, international reform based on a total balance sheet framework
  - U.S. PBA will be implemented one product at a time
  - International standards and U.S. PBA are both based on a projection of a company's asset and liability cash flows in different economic scenarios
  - Projection model reflects company experience + margin
  - Reported value based on modeled results subject to a floor
- In both the U.S. and EU, significant debate has taken place over the technical aspects of the calculations
- U.S. PBA has been developed over several years in cooperation with industry, regulators, and actuarial profession



# Appendix III – U.S. vs. International Differences Between U.S. and International Frameworks

Includes, but is not limited to the following:

- Scope
  - International framework encompasses entire balance sheet
  - U.S. framework is more product & risk specific
- Time Horizon
  - International looks at both long-term and short-term
  - U.S. looks at long-term, using greatest present value
- Financial Reporting Basis
  - International is market-value based; The European Union (EU) capital standard, Solvency II, is based on mark to market concepts where future cash flows are based on margins consistent with current market values
  - U.S. is book-value based; U.S. PBA standards are based on projected cash flows based on real world economic scenarios and margins based on realistic expectations plus a margin for adverse deviation



# Appendix III – U.S. vs. International

## Differences Between U.S. and International Frameworks

- Governance
  - International recognizes governance may be country-specific
  - U.S. is considering a centralized approach that is integrated with the financial examination process
- Risk Metrics
  - International metrics may vary by country or be MV based
  - U.S. establishes reserve and capital requirements based on stochastic results, calculated as the average of the results in the tail scenarios (i.e., CTE(90) for TAR)



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# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00 The Foundation:
  - I. Introduction
  - II. Reserve Requirements
  - III. Reporting Requirements
  - IV. Experience Reporting Requirements
  - V. Valuation Manual Minimum Standards



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00. I. Introduction
  - Authority and Applicability
  - Background
  - Description of Valuation Manual
  - Operative Date of Valuation Manual
  - Process for Updating Valuation Manual
  - Overview of Reserve Concepts



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00. II. Reserve Requirements
  - Life Insurance Contracts
  - Annuity Contracts
  - Deposit-Type Contracts
  - Health Insurance Contracts
  - Credit Life and Disability Contracts
  - Riders and Supplemental Benefits
  - Claim Reserves



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00. III. Reporting Requirements
  - Provides for actuarial opinion and memorandum requirements in VM-30
  - Provides for principle-based disclosure requirements and standardized template in VM-31 (confidential report)



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00. IV. Experience Reporting Requirements
  - Provides experience reporting requirements in VM-50
  - Provides experience reporting formats and additional instructions in VM-51



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00. V. Valuation Manual Minimum Standards
  - VM-01 Definitions
  - VM-05 SVL
  - VM-20 Life Insurance - PBR
  - VM-21 Variable Annuity - PBR
  - VM-22 Non-Variable Annuity
  - VM-25 Health Insurance
  - VM-26 Credit Life & Disability



# Appendix IV – Valuation Manual Detail

## VM Table Of Contents

- VM-00.V. Valuation Manual Minimum Standards (continued)
  - VM-30 AO & Memorandum Requirements
  - VM-31 PBR Reporting Requirements
  - VM-50 Experience Reporting Requirements
  - VM-51 Experience Reporting Formats
  - VM-Appendix A: Non-PBR Requirements
  - VM-Appendix C: Actuarial Guidelines
  - VM-Appendix G: Corporate Governance



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# Appendix IV – Governance

## PBA Requires Governance

- Flexibility in assumptions, methods, and models used to determine reserves means:
  - New obligations for company boards, management and actuaries to assure they are appropriately governing the processes by which these reserves are determined
  - New obligations for regulators to obtain assurance that the results are appropriate and consistent with the legal requirements
- VM-G is the proposed section of the valuation manual to address corporate governance of PBA



# Appendix IV – Governance

## Governance Within The SVL

- The SVL primarily points to the VM for governance, but does specifically:
  - Require that PBR assumptions, methods and models must be consistent with (but not necessarily identical to) those used in other company risk assessment processes
  - Require that the company annually provide to the commissioner and the board a certification of the effectiveness of internal controls with respect to the PBR valuations



# Appendix IV – Governance

## Governance Within The Valuation Manual

- Provides guidance for governance responsibilities of the board, company management, and qualified actuaries with respect to PBR
- Oversight is the responsibility of the Board of Directors:
  - Reviews summary results and other information on PBR processes
  - Determines what additional steps, if any, are needed to rely on PBR processes of the company



# Appendix IV – Governance

## Governance Within The Valuation Manual

- Company management responsibilities for PBR
  - Provide information to the Board
  - Review PBR results
  - Adopt internal controls over PBR valuations
  - Ensure that resources are adequate and competent
  - Ensure that PBR processes operate as intended



# Appendix IV – Governance

## Governance Within The Valuation Manual

- Qualified actuary's responsibilities for PBR
  - Oversee determination of PBR
  - Review and approve the assumptions, methods, models, and internal standards
  - Provide a summary report (to board, management)
- The Appointed Actuary provides an annual Statement of Actuarial Opinion on adequacy of all statutory reserves (PBR as well as formulaic reserves)

