

## Statutory Valuation of Life Insurance Policies: Universal Life Considerations

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### The UL/VUL Regulatory Front: More Guidelines, More Headaches?

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- **Actuarial Guideline AXXX**  
"The Application of the Valuation of Life Insurance Policies Model Regulation"
- **Actuarial Guideline XXXVII**  
"Variable Life Reserves for Guaranteed Minimum Death Benefits"
- **Actuarial Guideline XXXVI**  
"The Application of the Commissioner's Reserve Valuation Method to Equity Indexed Life Insurance Policies"

## Actuarial Guideline AXXX: History

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- Regulation XXX spurred product design creativity/innovation
- Increased reserve requirements due to the risks involved in guaranteeing benefits over extended periods of time
- Use of Shadow Accounts in UL products became prevalent
  - Shadow accounts = account values developed using charges and credits more favorable than contractual guarantees
  - Cash value in the shadow account allows the policy to remain in force

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## Actuarial Guideline AXXX: Level Playing Field?

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### **Ramifications of Creativity**

- “Creative” companies perceived to be violating spirit of XXX
- Companies abiding with XXX were at a market disadvantage
- Fear that companies experiencing a loss of market share would attempt their own creativity initiatives
- Regulators felt the need to again try to create a level playing field; AXXX was the outcome

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## Actuarial Guideline AXXX: Unique Elements

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- **Unique Elements of this Guideline**
  - An interpretative and correctional guideline
  - Use of examples
  - Argument for retroactivity

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## Actuarial Guideline AXXX: UL Specifics

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- **Example #7: "Premium Catch-up Provision"**
  - Coverage is guaranteed to remain inforce as long as a specified premium is paid each year, and insured has an unlimited right to make up past premium deficiencies
  - These provisions constitute "unexpired secondary guarantees" since the secondary guarantee is capable of being reinstated until the end of the secondary guarantee period
  - Policyholder can reinstate a secondary guarantee or move from a shorter period to a longer period

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Actuarial Guideline AXXX:  
Catch-Up Provision (Cont'd)

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- **Reserve Implications**

- Must be incorporated when calculating the greatest of the respective minimum reserves necessitated when more than one secondary guarantee exists
- Assume the longest guarantee period is met
- Can proportionately reduce the basic and deficiency reserve amounts by any "catch-up" amount required to maintain the guarantee
- Therefore, some relief over a strict interpretation of XXX

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Actuarial Guideline AXXX: UL Specifics

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- **Example #8: Secondary Guarantee Requirements**

- Coverage remains in force as long as the sum of premiums paid satisfies a requirement
- Addresses the accumulation of premium and shadow account designs
- Prefunded amounts are added to the basic reserve
- Reserve is capped by the statutory NSP covering the remainder of the guarantee period

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Actuarial Guideline AXXX:  
Secondary Guarantee Requirements (Cont'd)

- **Issues/Ramifications:**

- Approach relies on actual premium payments
- A modification to XXX and UL Model Regulation?
- Reserving implications substantially negate potential for lowering reserve strain caused by XXX adherence
- Repricing of UL products
- System modifications

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Actuarial Guideline AXXX:  
Current Status/Effective Date

- Approved by LHATF and the Life Insurance and Annuities (A) Committee at the 2002 Summer National Meeting
- Approved by Plenary Committee at September, 2002 meeting
- All non-shadow account guidance is retroactive to the earlier of a state's adoption of XXX
- All of the shadow account guidance is applicable to policies issued on or after the later of a state's adoption date and 1/1/03

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## Actuarial Guideline AXXX: Marketplace Impact

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- With the exception of shadow accounts, most of the examples outlined in the guideline will probably become more scarce
- Product development actuaries will scramble
- Shadow accounts will likely remain due to the flexibility created by these funds

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## Actuarial Guideline 37: Background

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- **Guideline Focus**
  - To clarify the appropriate projection assumptions and methodologies used to determine statutory reserve liabilities for GMDB's offered with VL products
  - Projection assumptions used to determine guaranteed death benefits
- **What's a GMDB?**
  - Any guarantee which provides the protection of the death benefit which would otherwise not be provided if the guaranteed benefit/provision did not exist
  - Primary example of a GMDB within a VUL contract is a no-lapse guarantee (i.e., policy stays inforce, regardless of market performance, if some qualifying event is met).

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## Actuarial Guideline 37: History

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- **Evolution**

Guideline evolved due to lack of standard methodology for VL reserving

- **Four guiding regulatory sources existed**

Standard Valuation Law, Variable Life Insurance Model Regulation (revised in 1983 and 1989), Universal Life Insurance Model Regulation and Regulation XXX

- **Emergence of Actuarial Guideline 37**

- Lack of uniform state adoption of the 1983 and 1989 versions of the VL model regulation

- Companies interpreted these regulations inconsistently

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## Actuarial Guideline 37: VL Model Regulation, 1983 versus 1989

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### **Problems with the 1983 Revisions**

- Treats flexible premium policies differently than scheduled premium policies
- Did not anticipate the conditional types of GMDB's available today

### **1989 Revisions**

- Uniform approach for both fixed and flexible policies
- Adopted in few states

### **Actuarial Guideline 37**

- Clarifies both regulations and provides calculational specifications/clarifications

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## Actuarial Guideline 37: GMDB reserve per 1983 Revisions

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- **Fixed Premium Contracts**

**GMDB reserve = greater of**

- a). The one-year term ("OYT") cost for the difference of the GMDB and the death benefit provided for in the account value, assuming a 1/3 drop in that account value
- b). The attained-age level reserve ("AALR")

- **Flexible Premium Contracts**

GMDB Reserve = the total of all term costs for the GMDB excess

- term costs are for the duration of the guarantee period, not limited to a year

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## Actuarial Guideline 37:1989 Revisions

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- **Collapsed the fixed and flexible premium sections**
- **GMDB reserve equals the greater of:**
  - a). A OYT reserve, based on a 1/3 drop in account value
  - b). An AALR following parallel mechanics of the original version, but allowing funding over the revenue collection period instead of the premium paying period
- **Term reserve portion is limited to one year, regardless of whether premiums are fixed or flexible.**
  - greatly reduces reserving impact
  - future required premiums do not impact calculation
- **AALR can be minimized if flooring required premiums at the valuation premium level**

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## Actuarial Guideline 37: Clarification of Variable Life Regulations

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- **Fixed vs. Flexible Premium Methodologies**

- Clarifies the use of the AALR methodology for flexible premium policies with contingent GMDB benefit structures similar to fixed premium contracts
- If a contract specifies a required premium in order to maintain a GMDB, the contract constitutes a fixed premium contract for GMDB reserve purposes
- Belief that 1983 methodology did not anticipate these contract types
- 1989 treatment applies to most of today's GMDB products

- **Language added to emphasize the non-applicability of XXX**

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## Actuarial Guideline 37: Projection Assumptions

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- **GMDB duration**

- GMDB must be assumed to remain in force for its maximum duration
- Guaranteed period covered is determined assuming all contingent requirements are met

- **Interest Rate**

- General and separate account fund balances projected at the valuation interest rate

- **Expense Loads**

- not mentioned in relation to projection assumptions

- **Cost of Insurance Rates**

- specified as minimum valuation mortality
- no direct relationship to guaranteed COI rates

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## Actuarial Guideline 37: Projection Assumptions (Cont'd)

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- **Policy Options and Benefits**
  - Assumed to continue unchanged (I.e., fund allocation, death benefit option)
- **Projection Period**
  - Values projected for the entire guarantee period, regardless of whether positive or negative values result
  - Negative policy values set to zero
- **GMDB Revenue**
  - defined as either policy charges or premium, either implicit or explicit

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## Actuarial Guideline 37: Status/Ramifications

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- Adopted at fall, 2001 meeting; included in March, 2002 version of the Accounting Practices and Procedures Manual
- Effective 12/31/01
- Design changes may be in order
- Some companies seeking relief

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## Actuarial Guideline 36: Basics

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- **Purpose**

- Clarify statutory and regulatory requirements for the equity indexed UL reserve valuation

- Achieve consistency with CRVM minimum statutory formula reserves

- **Equity Indexed UL Mechanics**

- Credited interest is based on a combination of a guaranteed interest rate and on increases in a selected equity index

- EIUL has not been as developed as EIA; as further product designs emerge, guideline may need to be updated

- **Scope**

- Applies to all EIUL policies, regardless of issue date, that are subject to CRVM and requirements dictated by UL Model Regulation

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## Actuarial Guideline 36: Introduction to Computational Methods

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- AG36 identifies a computational method (Type 1) which is deemed to be consistent with CRVM when operational criteria ("Hedged as Required") are met; two other methods (Type 2a, Type 2) identified in the event that the criteria are not met

- Reserve is the greater of the reserve calculated under UL Model Regulation methodology (for an identical policy without index-based credits) and that produced using the approach outlined in AG36

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Actuarial Guideline 36:  
Introduction to Computational Methods

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**Methods deemed to be consistent with CRVM:**

Type 1: Implied Rate Guarantee Method (“IGRM”)  
- only if “Hedged as Required” criteria are met

Type 2a: Commissioners Reserve Valuation Method with  
Updated Average Market Value (CRVM with UAMV)

Type 2: Commissioners Reserve Valuation Method with  
Updated Market Value (CRVM with UMV)

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Actuarial Guideline 36:  
Hedged as Required Criteria

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- Use of Type 1 methodology is contingent upon quarterly certification that “Basic” or “Option Replication” criteria are met
- **Basic Criteria**
  - Equivalence of characteristics
  - Hedge amount must cover the max of the AV or Reserve
  - Specific plan for hedging risks associated with decrements, etc
  - Must monitor effectiveness of hedging strategy
  - Maximum tolerance for actual vs. expected results of the hedge must be stated

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Actuarial Guideline 36:  
Hedged as Required Criteria (cont'd)

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- **Option Replication**

- Equivalence of characteristics between the target of an option replication strategy and the options embedded within the liabilities
- Notional amount must substantially cover the max of the account value or reserve; measured at the end of each quarter
- Specific plan for hedging risks associated with decrements, etc.
- Must monitor effectiveness of hedging strategy
- Maximum tolerance for actual vs. expected results of the hedge must be stated
- Additional requirements for the maximum tolerance test and compliance evaluation test

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Actuarial Guideline 36:  
Type 1 Methodology

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**Implied Guarantee Rate Method Mechanics:**

- **Issue Date Calculations**

- GMP, GMF and net premiums calculated according to UL Model Reg
- guaranteed interest rate = implied rate
- implied rate for initial term = guaranteed interest rate + accumulated option cost

- **Valuation Date Calculations**

- recalculate implied rate using above approach

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## Actuarial Guideline 36: Type 2a Methodology

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Type 2a methodology deemed consistent with CVRM if criteria below are met and Reasonableness and Consistency of Assumptions Certification is provided (signed by appointed actuary)

- **Type 2a Prerequisite Criteria must be satisfied**
  1. Implied guaranteed rate for terms after the first  $\leq$  max valuation rate
  2. Indexed-based benefit terms cannot exceed 1 year
  3. Demonstration by appointed actuary that criteria #1 and 2 are met

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## Actuarial Guideline 36: Type 2a Mechanics

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### **CRVM With UAMV Mechanics:**

- Issue Date Calculations parallel to Type 1 mechanics
- Valuation Date Calculations
  - greater of the GMF or policy value is projected to end of current term and added to the accumulated option cost
  - project combined amount forward to determine future benefits

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## Actuarial Guideline 36: Type 2 Methodology

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- Not conditioned upon meeting “Hedged as Required” or Type 2a Prerequisite Criteria
- Must submit quarterly certification signed by appointed actuary; deals with:
  - Assumptions underlying the option market values included in the calculation of reserves, and
  - Consistency in assumptions between these market values and the statement value of options supporting the equity indexed business

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## Actuarial Guideline 36: Type 2 Mechanics

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### **CRVM With UMV Mechanics:**

- **Issue Date Calculations**
  - fund is projected to end of initial term at guaranteed interest rate and added to accumulated option cost
  - project combined amount forward to determine future benefits
  - Use UL Model Reg to calculate GMP, GMF and net premiums
- **Valuation Date Calculations**
  - greater of the GMF or policy value is projected to end of current term and added to the accumulated option cost
  - project combined amount forward to determine future benefits

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## Actuarial Guideline 36: Ramifications

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- Increased communication with investment department
- Increased written communication/disclosure to insurance departments
- No specific complications cited

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## Summary: More Guidelines, Not Too Many Headaches

- Ramifications of guidelines known prior to approval; ample "recovery" period
- Another round of product innovation
- Opportunity for reinsurers

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