


**VM-20 Impact Study
Preliminary Results - Phase I & Phase II**
Actuaries' Clubs of Boston & Hartford/Springfield Joint Meeting

November 17, 2011
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Agenda

- Phase I Participation
- Phase I Baseline Results
- Phase II Participation
- Phase II Selected Sensitivity Results
- Potential areas for refinement
- Next steps

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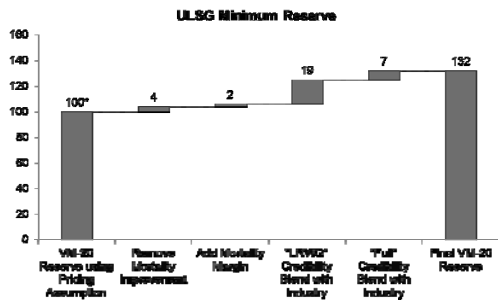
Phase I participation

Count of Products Being Tested in VM-20 Impact Study				
Product	Orig. Count	Current Count	Phase I Submitted Count	Phase I Resubmissions
IULSG	10	10	9	7
IUL without SG	5	3	2	1
Term	13	13	13	6
TWL	5	5	5	3
SIWL	4	3	3	3
VUL	6	5	4	3
Total	48	42	36	23

- Resubmissions have not had a significant impact on the data
- Not all companies submitted all aspects of Phase I
- We did not get any submissions from Reinsurance and IUL participants

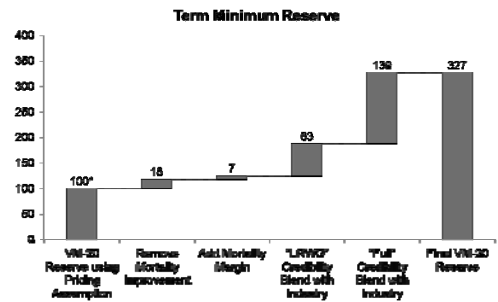
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Sensitivity 1 Mortality Margin Component Analysis



* Hypothetical starting reserve set to 100

Sensitivity 1 Mortality Margin Component Analysis (continued)



* Hypothetical starting reserve set to 100

Sensitivity 6 Net Premium Reserve (NPR)

- 6a) Change ULSG lapse rate formula in 3.C.3.c.ii from $L_{x+1} = 0.01R_{x+1} + 0.005(1 - R_{x+1})F_{x+1}$ to $L_{x+1} = 0.03R_{x+1} + 0.015(1 - R_{x+1})F_{x+1}$
 - Applies to ULSG only
 - Average change to ULSG NPR is -16%
- 6b) Change valuation rate from 5% to 4% for the no-CSV benefit streams, and from 4% to 3% for the with-CSV benefit streams
 - Applies to ULSG and Term only
 - Average change to Term NPR is +4%
 - Average change for to ULSG NPR is +23%
- 6c) Use VM-20 Section 3 to calculate the NPR instead of using CRVM
 - Applies to SIWL, TWL and ULWO only
 - Average change to SIWL NPR is -16%
 - Average change to TWL NPR is NR
 - Average change to ULWO NPR is -21%

Potential areas for refinement

- Scope and certification
- Mortality assumption
 - Credibility blending appears overly conservative
- Credit spread methodology
 - Alternative 1 or 2?
- Iteration of starting assets to within 2% of modeled reserve
 - Time consuming
- Net Premium Reserve
- Stochastic reserve exclusion test
 - Can be volatile when YRT reinsurance percentage is high

Next steps for impact study

- Online survey of participants
- Investigate outlier results
- Complete analysis to address NAIC objectives
- List potential refinements to VM-20
- Deliver final report
- Ongoing support
