Alternative Methodology for Calculating Reserves and C-3 Phase 2 Additional Asset Requirements (AAR) for Guaranteed Minimum Death Benefits (GMDB)

Background

The AAA Life Capital Adequacy Subcommittee ("LCAS") issued a report entitled *Recommended Approach for Setting Regulatory Risk-Based Capital Requirements for Variable Products with Guarantees (Excluding Index Guarantees*" in December 2002, with updates in September 2003 and December 2003. The AAA LCAS recommendation permits companies with "guaranteed minimum death benefits only" products to choose between scenario testing or a factor approach, provided they have not used scenario testing in previous years. Other guarantees (e.g., so-called "guaranteed living benefits" – or VAGLBs – that depend on the survival and deliberate/elective action of the policyholder either through persistency or option exercise) require scenario testing. The AAA Variable Annuity Reserve Work Group ("VARWG") has proposed that reserves be set using principles very similar to those recommended by the LCAS and also permits the use of a factor approach. The factor-based approach – referred to as the "Alternative Methodology" – is described in reports from both the AAA LCAS C-3 Phase II Work Group ("C3WG") and the VARWG; see, for example, Appendix A in the March 2004 report from the VARWG, available on the AAA website.

The Alternative Methodology makes use of a "Factor File". The AAA supplies the necessary factor files and a factor lookup tool ("FLT"). The FLT is an Excel add-iIn, which provides the user with Excel functions that retrieve the appropriate factors from the factor file for a given set of policy features.

Installing/Updating the Factor Lookup Tool Add-In and Factor Files

The FLT has been updated on a number of occasions, and may be updated again in the future. Please ensure you are using the most up-to-date version. When upgrading to a new version of the Add-In it is recommended that any old version be deleted prior to installation:

1. Delete all existing files in the FLT installation folder (the default folder is 'C:\Program Files\C3Phase2').
2. Using the **Tools…Add-Ins** menu item in Excel, remove any references to the FLT Add-In (e.g. 'GMDBFactorCalc(2004-05-19)').
3. Run the SETUP.EXE for the upgraded version of the FLT.

Working with Excel Workbooks that Use the Factor Lookup Tool

In addition to the Factor File and Factor Lookup Tool, the AAA also supplies *Portfolio Comparison Workbooks* which demonstrate how to use the Factor Lookup Tool and show results for sample small diversified portfolios. New versions of the FLT may be accompanied by updated versions of these Excel workbooks.

When the FLT is used together with its companion *Portfolio Comparison Workbooks*, use should be straightforward. However, some users may experience Excel link errors. This can happen, for example, when opening an Excel workbook which is linked to an *older* version of the FLT Add-In, or if the Add-In is not loaded prior to opening the Excel workbook which uses the FLT. The following process should resolve any link errors experienced by Excel:

1. Open the new version of the FLT Add-In (the .xla file) and select the appropriate factor file when prompted.
2. Open the Excel workbook containing the links to the FLT Add-In. If prompted to update links, click on the **'Don't Update'** button.
3. Using the **Edit...Links** menu item, click the **Change Source** button and browse to the new version of the FLT Add-In (the .xla file, default installation location is 'C:\Program Files\C3Phase2').
4. Click the **Update Values** button and close the dialog.
5. Press **Ctrl-Alt-F9**. This will force Excel to recalculate all formulas in the workbook and should resolve any link errors which remain.
6. Save the workbook to capture the updated link.

Tip: In general, it is best to open the FLT Add-In (.xla file) prior to opening any workbooks which reference this Add-In. The FLT Add-In may be opened after opening a workbook containing links to the Add-In; however, it may be necessary to use the **Ctrl-Alt-F9** keystroke to force Excel to recalculate all formulas.