Article Title: ARCHIVE | Criteria | Insurance | Specialty: New Insurance Capital Model Embraces Trends In Risk Management Data: In its ongoing effort to meet the changing needs of insurance companies, Standard & Poor's has developed a new financial product company (FPC) model that incorporates an insurer's management and tolerance of risk into the analysis of capital adequacy. As an optional service, Standard & Poor's has applied the FPC model to insurance companies, including ING Institutional Markets (ING), to determine the recommended capital adequacy relating to their non-insurance businesses such as the issuance of guaranteed investment contracts (GICs) and other forms of operational leverage. This model was developed in response to the increasing spread arbitrage activities of certain life insurers and the continued refinement of risk management activities by various insurance companies. Another key development driving this FPC model approach is the increasing pressure on insurers to optimize their capital base without compromising ratings strength. They must, of course, also convince regulators that this has been achieved. The FPC model allows insurers to earn recognition for integrated risk management techniques they are using to manage the interest rate, credit, and operational risk associated with their assets and liabilities, rather than relying on a blanket application of uniform rating methodology, such as is the case in Standard & Poor's traditional risk-based capital (RBC) model. It also permits an increasingly differentiated analysis from company to company as the company-specific risk profiles within the insurance industry continue to polarize. This article describes the principles of the model as Standard & Poor's has applied it to institutional businesses of various insurance companies, and incorporates the methodology and sets out in detail the model's application to a hypothetical company. The FPC model provides Standard & Poor's with a statistically based analytical framework to determine a company's capital adequacy relative to its specific credit, financial market, and operational risk exposures resulting from its combined portfolio of financial assets, funding liabilities, and "off balance sheet" hedge instruments. The goal of the model is to analyze the capital that is required to cover expected losses based on a statistical level of confidence that is commensurate with the rating on the company. The higher the rating category, the greater the statistical level of confidence that is established. Since the model is additive and modular in design, risks that are not specifically included in these three categories, such as insurance risk imbedded in operational leverage, may be analyzed using Standard & Poor's traditional capital modeling and then added to the capital adequacy requirements determined by the FPC model. For the business lines it is applied to, the FPC model is used in place of Standard & Poor's traditional insurance capital adequacy model, which bases charges for interest rate and credit risk on industry averages and liability types rather than on company specific net exposure. The RBC model also does not consider hedging strategies used to reduce credit and or financial market risks, such as over-the-counter (OTC) credit and interest rate derivatives. Standard & Poor's application of the FPC model is limited to insurance companies that analyze and report their risks on a comprehensive and sophisticated basis and manage risk with the intention of creating a conservative risk profile using sophisticated hedging strategies and conservative underwriting practices to reduce market and credit risk to a level below the industry norm. After applying the FPC model to measure the company's actual risk profile resulting from its risk management practices, Standard & Poor's may be able to gain comfort in significantly lowering a company's expected capital adequacy relating to a specific institutional "book", while at the same time increasing Standard & Poor's confidence that the level of capital is appropriate for the rating on the company. This article describes the application of the FPC model to an example GIC book and illustrates how the following comparative results were calculated using the FPC and RBC models. The table below gives an indication of the magnitude of the decrease in Standard & Poor's expected capital adequacy that may be achieved for a company using the FPC model. Table 1 Comparison of Standard & Poor's Capital Models for Illustrated Application CREDIT RISK INTEREST RATE RISK OPERATIONAL RISK TOTALS $ % $ % $ % $ % Risk-based capital model 5,892,500 0.59 48,500,000 4.85 500,000 0.05 54,892,500 5.49 FPC model 3,399,571 0.34 16,840,510 1.68 3,272,500 0.33 23,512,582 2.35 Difference 2,492,929 0.25 31,659,490 3.17 (2,772,500) (0.28) 31,379,918 3.14 Percentages based on $1 billion guaranteed investment contract book value In general, the net exposure relating to the company's assets, liabilities and OTC derivatives, required for application of the FPC model, are provided by the company. The frequency of reporting required to continue applying the FPC model is decided on a case-by-case basis. However, it will typically be

provided at least quarterly. Standard & Poor's then uses its own internal systems to spot-test the individual exposure numbers. In addition, Standard & Poor's may independently analyze the company's hedging strategies. The FPC model is designed to assess risk-based capital adequacy and does not address liquidity. Therefore, Standard & Poor's traditional liquidity model is still applied to insurance companies analyzed under the FPC model. Furthermore, since the FPC model is not designed to determine capital adequacy relating to risks other than credit exposure or financial market risk, such as insurance risk, the traditional RBC model may be used to determine the capital adequacy on a portion of a company's book that does not relate to interest-rate or credit risk. Example Application of Standard & Poor's FPC Model to an Insurance Company The following figure illustrates the portions of the model that Standard & Poor's would typically apply to insurance companies to analyze the three major related categories of risk: financial market risk, credit risk, and operations risk. To illustrate and explain an application of the FPC model to a 'AA'-rated insurance company's matched-funded book of business, Standard & Poor's created the following hypothetical portfolio of benefit-responsive GIC funding liabilities, fixed-income instruments, and OTC derivative hedge instruments. The financial assets funded with GIC proceeds are limited to fixed-income securities, including corporate issues, mortgage-backed securities (MBS), and asset-backed securities. Therefore, the hypothetical company's exposure to financial market variables is limited to absolute and relative changes in interest rates along various yield curves. Table 2 Guaranteed Investment Contract (GIC) Book Summary -- Illustrative Benefit Responsive GIC Book* INSTRUMENT TYPE ISSUER/DESCRIPTION COUPON (%) MATURITY/TENOR RATING DURATION (YEARS) PAR/NOTIONAL AMOUNT ($) FIXED-INCOME SECURITIES (FUNDED ASSETS) Corporate security A National Rural Utilities 4.65 1/15/2002 A+ 0.239 50,000,000 Corporate security B General Mills 4.75 10/8/2003 A- 1.874 118,750,000 Corporate security C Aon Corp 6.90 7/1/2004 A+ 2.431 118,750,000 Corporate security D Ford Motor Credit 5.73 1/13/2005 BBB+ 2.876 118,750,000 Corporate security E Bank of America 4.75 10/15/2006 A+ 4.399 118,750,000 Corporate security F Paine Webber Group 6.76 5/16/2011 AA+ 6.979 50,000,000 Asset-backed securities -- security G The Money Store (home equity) 6.65 8/15/2039 AAA 3.161 25,000,000 Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) 6.50 7/25/2027 AAA 3.488 200,000,000 MBS -- security I Ginnie Mae (pass-through) 6.00 4/15/2030 AAA 5.083 200,000,000 Total 1,000,000,000 GICS (FUNDING LIABILITIES) GIC A One-year benefit responsive GIC 2.59 10/15/2002 N.A. 0.973 50,000,000 GIC B Two-year benefit responsive GIC 3.28 10/15/2003 N.A. 1.913 100,000,000 GIC C Three-year benefit responsive GIC 3.86 10/15/2004 N.A. 2.799 350,000,000 GIC D Four-year benefit responsive GIC 4.28 10/15/2005 N.A. 3.633 350,000,000 GIC E Five-year benefit responsive GIC 4.59 10/15/2006 N.A. 4.414 100,000,000 GIC F Seven-year benefit responsive GIC 4.99 10/15/2008 N.A. 5.839 50,000,000 Total 1,000,000,000 OVER-THE-COUNTER (OTC) INTEREST RATE DERIVATIVES (ASSET DELTA HEDGES -- CONVERT ASSETS TO FLOATING RATE)** Pay fixed-interest-rate swap A Three-month asset swap for security A 2.50 1/15/2002 AAA 0.238 118,750,000 Pay fixed-interest-rate swap B Two-year asset swap for security B 3.22 10/8/2003 AAA 1.834 118,750,000 Pay fixed-interest-rate swap C Three-year asset swap for security C 3.65 7/1/2004 AAA 2.543 118,750,000 Pay fixed-interest-rate swap D Three-year asset swap for security D 3.98 1/13/2005 AA 3.003 118,750,000 Pay fixed-interest-rate swap E Five-year asset swap for security E 4.52 10/15/2006 AA 4.398 50,000,000 Pay fixed-interest-rate swap F Seven-year asset swap for security F 5.22 5/16/2011 AA 7.244 50,000,000 Pay fixed-interest-rate swap G Amortizing asset swap for security G 4.31 11/15/2011 A 3.627 25,000,000 Pay fixed-interest-rate swap H Amortizing asset swap for security H 4.94 8/15/2009 A 6.308 200,000,000 Pay fixed-interest-rate swap I Amortizing asset swap for security I 5.28 2/15/2030 A 5.089 200,000,000 Total 1,000,000,000 OTC INTEREST RATE DERIVATIVES (LIABILITY DELTA HEDGES -- CONVERT LIABILITIES TO FLOATING RATE)** Receive fixed-interest-rate swap A One-year liability swap for GIC A 2.56 10/15/2002 AAA 0.970 50,000,000 Receive fixed-interest-rate swap B Two-year liability swap for GIC B 3.26 10/15/2003 AAA 1.908 100,000,000 Receive fixed-interest-rate swap C Three-year liability swap for GIC C 3.85 10/15/2004 AAA 2.794 350,000,000 Receive fixed-interest-rate swap D Four-year liability swap for GIC D 4.28 10/15/2005 AA 3.623 350,000,000 Receive fixed-interest-rate swap E Five-year liability swap for GIC E 4.59 10/15/2006 AA 4.397 100,000,000 Receive fixed-interest-rate swap F Seven-year liability swap for GIC F 4.99

10/15/2008 AA 5.804 50,000,000 Total 1,000,000,000 OTC INTEREST-RATE DERIVATIVES (ASSET GAMMA HEDGES -- MITIGATE MBS PREPAYMENT OPTIONS)** European swaption A to receive fixed One-year forward/nine-year swap for MBS (shortening risk) 5.35 10/25/2002 A N.A. 250,000,000 European swaption B to receive fixed One-year forward/nine-year swap for MBS (shortening risk) 5.35 10/25/2002 A N.A. 250,000,000 European swaption C to pay fixed One-year forward/nine-year swap for MBS (extention risk) 6.05 10/25/2002 A N.A. 200,000,000 Total 700,000,000 OTC INTEREST RATE DERIVATIVES (LIABILITY GAMMA HEDGES -- MITIGATE BENEFIT RESPONSIVE OPTIONS IN GICS)** European swaption D to pay fixed One-year forward/four-year swap for benefit responsive GIC liabilities 5.19 10/25/2002 A N.A. 25,000,000 Total 25,000,000 OTC CREDIT DERIVATIVE (CREDIT-DEFAULT HEDGE -- MITIGATE DEFAULT RISK OF FORD MOTOR CREDIT)*** Short credit default swap A Sears Roebuck Acceptance N.A. 1/18/2005 A- N.A. 118,750,000 Long credit default swap B Ford Motor Credit N.A. 1/13/2005 BBB+ N.A. 118,750,000 Total 118,750,000 *As of Nov. 10, 2001. In creating the example portfolio, Standard & Poor's assumed the company uses a risk management strategy of synthetically converting its assets and funding liabilities to floating-rate instruments through the use of OTC derivatives (interest-rate swaps), which has the effect of synthetically cash-matching its book. This risk management practice is intended to minimize the company's exposure to absolute changes in interest rates along the yield curve (first-order market risk), exclusive of exposure due to price gamma or convexity (second-order market risk), which is discussed below. Given a synthetically cash-matched portfolio, the change in the market value of the assets largely offsets the change in the value of the liabilities for given small changes in rates at different points along the yield curve. In addition, Standard & Poor's assumes the company buys OTC derivative options to limit its exposure to the options embedded in both the assets and liabilities, which create a non-linear price/yield relationship for larger movements in rates. The sources of the company's credit exposure include its portfolio of fixed-income securities and its counterparties on OTC derivative transactions. To illustrate the treatment of credit derivatives in the model, the company was assumed to use credit derivatives to synthetically change its exposure on a 'BBB+' fixed-income asset to 'A-' exposure. The example portfolio, the assumed risk-management strategies, and the credit profile are for illustrative purposes only, and Standard & Poor's makes no recommendation as to their appropriateness or to their effectiveness in relation to FASB 133. Analysis of Financial Market Risk Financial market risk is defined in the model as exposure to changes in market prices or rates that may adversely affect returns or earnings. The capital adequacy for a company's exposure to financial market risk is determined by separately deriving incremental capital charges for interest-rate delta (mismatch) risk, interest-rate gamma risk, liability-option risk, interest-rate vega risk, equity delta risk, and equity gamma risk. Since most applications to non-insurance institutional books of insurance companies do not require Standard & Poor's to analyze the latter three categories of risk, they will be not be considered or discussed in this example. In addition, although the model is designed to analyze exposures to non-U.S. yield curves, for purposes of simplicity, this example will focus solely on the treatment of instruments with market values related only to the level of U.S. domestic interest rates. For readers interested in the omitted sections, the full details of the model are available on Standard & Poor's web site at www.standardandpoors.com (''Standard & Poor's Revises Its Risk-Based Capital Adequacy Model for Financial Products Companies,'' published July 17, 2000). In determining the capital adequacy relating to financial market risk and credit risk, Standard & Poor's attempts to create a statistical level of confidence that is commensurate with the rating category in accordance with the following table. Table 3 Targeted Statistical Level of Confidence for Rating Categories RATING CATEGORY TARGET (%) IMPLIED STANDARD DEVIATION MOVEMENT ASSESSMENT AAA 99.9 3.00 Extremely strong AA 99.5 2.57 Very strong A 98.4 2.14 Strong BBB 95.7 1.71 Good Statistical level of confidence is based on assumed normal distribution. Interest Rate Delta Risk Charge (MR-1) The incremental capital adequacy relating to interest-rate delta risk is designated in the model as the MR-1 charge. The MR-1 charge is a quantification of the incremental capital allocation for mismatch risk relating to a company's specific net exposure to changes in interest rates at points along the yield curves. Mismatch risk occurs when the magnitude or timing of cash flows from the financial instruments that comprise the company's book do not exactly match or offset and, therefore, create different price sensitivities to changes in market value as interest rates move. The source of the net exposure includes

fixed-income assets, funding liabilities (such as GICs, structured notes, and funding agreements), off-balance-sheet hedging vehicles (such as OTC or exchange-traded derivative products), and any other financial instruments that change in value as interest rates move, including commercial mortgages. The company being analyzed provides Standard & Poor's with its net exposure in $US equivalents for a 1 basis point (bp) upward rate shift for up to 13 points along each yield curve to which the company has exposure. In other words, the company provides the net change in mark-to-market value for its combined portfolio of assets, liabilities, and OTC derivative products that change in value as a result of a change in interest rates for changes in rates at specific points on the yield curve. (For verification purposes, the company also provides Standard & Poor's with the individual exposure numbers relating to the individual assets, liabilities, and OTC derivatives.) In simplistic terms, the company measures its mismatch risk by changing the discount rate at a particular point on each yield curve and then recalculates the net present value (market value or NPV) of the entire stream of cash flows generated by the combined portfolio. The company limits the applied rate changes to small shifts to minimize the effect of gamma in the measurement of mismatch risk, which is explained below. The company typically models its fixed-income assets as generating positive cash flows and its liabilities (GICs) as generating negative cash flows, while the cash flows generated by OTC interest-rate derivatives can be either, depending on the type of contract. At future points in time where the cash flows from the company's assets, liabilities, and OTC derivatives are of a similar absolute magnitude match, the impact of a change in the discount rate creates a similar, and offsetting, change in the implied market values. Therefore, a change in rates will have a negligible effect on the NPV or combined market values of the company's portfolio. If the change in the NPVs of the combined negative and positive cash flows do not offset each other for a given change in rates, the net modeled change in market value gives an actual company a proxy for the amount of money it would make or lose for the given change in rates at that point on the curve, due to what is referred to as first-order market risk. This process effectively measures the impact of an infinite combination of changes in the shape of the yield curve (e.g., twist, shifts, butterflies) for the company and is typically known as analyzing risk points or key-rate durations. This method of measuring mismatch risk is advantageous compared with evaluating exposure by duration mismatch alone, which has two basic limitations: it does not measure or attribute exposure at specific points along the yield curve; and it does not allow a company to separately measure, and therefore hedge, first- and second-order exposure mismatches at the relevant points along the yield curve. Once a company measures its delta exposure, it may modify its net exposure with OTC derivatives or rebalance its fixed-income portfolio to conform with its risk-tolerance parameters. The net exposures provided by a company are referred to as DV01 values (i.e., dollar value change given a 1 bp movement in rates). These exposures can be derived from "key rate" or "partial durations" that are calculated using small shifts rates that limit the impact of gamma (non-linear changes in rates). Because the changes in value are reported for a 1 bp upward shift, net "short" exposures along the yield curves are reported as positive numbers, and net "long" exposures are reported as negative numbers. Exposure to relative changes in interest rates (a change in a spread or basis relationship) between offsetting items along various yield curves also exposes a company to risk. This risk, which is known as basis risk or spread risk, is not specifically quantified in the model. However, Standard & Poor's considers basis risk when deriving the applied interest-rate volatilities for this section of the model, which is discussed below. A company's exposure to nonlinear changes in market values relating to rate changes is analyzed in the interest rate gamma module. Standard & Poor's generated the following DV01 values based on the illustrative GIC book in Table 2 above. (The company's assumed strategy of synthetically cash-matching the liabilities and fixed-income assets using OTC derivatives produces DV01 values that are of relatively small magnitude.) Table 4 DV01* Values (Delta Exposures) for Illustrative Benefit-Responsive Guaranteed Investment Contract (GIC) Book (cont'd in Table 5) RISK POINT INSTRUMENT TYPE ISSUER/ DESCRIPTION ONE MONTH THREE MONTHS SIX MONTHS 12 MONTHS 24 MONTHS FIXED-INCOME SECURITIES (FUNDED ASSETS) Corporate security A National Rural Utilities 0 (1,214) 0 0 0 Corporate security B General Mills 0 0 (130) (460) (22,294) Corporate security C Aon Corp. 0 (82) (140) (656) (8,593) Corporate security D Ford Motor Credit 0 (158) 0 (601) (1,239) Corporate security E Bank of America 0 0 (140) (467) (1,031) Corporate security F Paine Webber Group (13) 0 (79) (280) (618) Asset-backed securities

(ABS) -- security G The Money Store (home equity) (3) (11) (45) (197) (1,508) Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) (83) (272) (853) (2,587) (4,854) MBS - security I Ginnie Mae (pass-through) (38) (171) (793) (2,742) (5,217) Total (136) (1,908) (2,179) (7,991) (45,354) GICS (FUNDING LIABILITIES) GIC A One-year benefit responsive GIC 0 0 31 4,830 0 GIC B Two-year benefit responsive GIC 0 0 79 272 18,754 GIC C Three-year benefit responsive GIC 0 0 324 1,120 2,470 GIC D Four-year benefit responsive GIC 0 0 360 1,242 2,739 GIC E Five-year benefit responsive GIC 0 0 110 381 840 GIC F Seven-year benefit responsive GIC 0 0 60 207 456 Total 0 0 964 8,050 25,259 OVER-THE-COUNTER (OTC) INTEREST-RATE DERIVATIVES (ASSET DELTA HEDGES -- CONVERT ASSETS TO FLOATING RATE) Pay fixed interest-rate swap A Three-month asset swap for security A 40 1,151 0 0 0 Pay fixed interest-rate swap B Two-year asset swap for security B (600) 816 22 2,076 19,445 Pay fixed interest-rate swap C Three-year asset swap for security C 449 (397) (24) 402 7,914 Pay fixed interest-rate swap D Three-year asset swap for security D 153 (95) (21) 440 820 Pay fixed interest-rate swap E Five-year asset swap for security E 94 (61) 22 503 957 Pay fixed interest-rate swap F Seven-year asset swap for security F (379) 177 25 237 468 Pay fixed interest-rate swap G Amortizing asset swap for security G (179) 207 (6) 136 1,454 Pay fixed interest-rate swap H Amortizing asset swap for security H (589) 351 89 844 1,709 Pay fixed interest-rate swap I Amortizing asset swap for security I (1,384) 1,754 442 2,602 4,961 Total (2,396) 3,904 549 7,239 37,728 OTC INTEREST-RATE DERIVATIVES (LIABILITY DELTA HEDGES -- CONVERT LIABILITIES TO FLOATING RATE) Receive fixed interest-rate swap A One-year liability swap for GIC A 0 2,326 (2,325) (4,845) 0 Receive fixed interest-rate swap B Two-year liability swap for GIC B 0 4,652 (4,667) (313) (18,727) Receive fixed interest-rate swap C Three-year liability swap for GIC C 0 16,283 (16,384) (1,266) (2,344) Receive fixed interest-rate swap D Four-year liability swap for GIC D 0 16,283 (16,419) (1,388) (2,614) Receive fixed interest-rate swap E Five-year liability swap for GIC E 0 4,652 (4,698) (423) (804) Receive fixed interest-rate swap F Seven-year liability swap for GIC F 0 2,326 (2,354) (228) (439) Total 0 46,524 (46,847) (8,462) (24,927) OTC INTEREST-RATE DERIVATIVES (ASSET GAMMA HEDGES -- MITIGATE MBS PREPAYMENT OPTIONS) European swaption A to receive fixed One-year forward/ nine-year swap for MBS (shortening risk) 0 0 0 7,928 (1,014) European swaption B to receive fixed One-year forward/ nine-year swap for MBS (shortening risk) 0 0 0 7,928 (1,014) European swaption C to pay fixed One-year forward/ nine-year swap for MBS (extension risk) 0 0 0 (10,092) 976 Total 0 0 0 5,763 (1,052) OTC INTEREST-RATE DERIVATIVES (LIABILITY GAMMA HEDGES -- MITIGATE BENEFIT-RESPONSIVE OPTIONS IN GICS) European swaption D to pay fixed One-year forward/ four-year swap for benefit resposive GIC liabilities 0 0 0 (21,322) 1,837 Total** (2,532) 48,520 (47,514) 4,600 (8,346) *Net change in modeled market value for a 1 basis point upward movement in rates for the relevant fixed income assets, GICs and OTC derivatives. Table 5 DV01* Values (Delta Exposures) for Illustrative Benefit-Responsive Guaranteed Investment Contract (GIC) Book (cont'd from Table 4) RISK POINT INSTRUMENT TYPE ISSUER/ DESCRIPTION 36 MONTHS 48 MONTHS 60 MONTHS 120 MONTHS 360 MONTHS TOTAL (ALL 10 RISK POINTS) FIXED-INCOME SECURITIES (FUNDED ASSETS) Corporate security A National Rural Utilities 0 0 0 0 0 (1,214) Corporate security B General Mills 0 0 0 0 0 (22,884) Corporate security C Aon Corp. (22,297) 0 0 0 0 (31,767) Corporate security D Ford Motor Credit (26,579) (8,752) 0 0 0 (37,329) Corporate security E Bank of America (1,470) (1,850) (47,463) 0 0 (52,421) Corporate security F Paine Webber Group (881) (1,109) (6,834) (29,520) 0 (39,334) Asset-backed securities (ABS) -- security G The Money Store (home equity) (2,080) (968) (3,178) (690) 110 (8,570) Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) (7,716) (9,521) (35,018) (16,302) 3,930 (73,276) MBS - security I Ginnie Mae (pass-through) (6,374) (7,222) (21,739) (43,739) (14,915) (102,951) Total (67,396) (29,423) (114,233) (90,251) (10,875) (369,745) GICS (FUNDING LIABILITIES) GIC A One-year benefit responsive GIC 0 0 0 0 0 4,861 GIC B Two-year benefit responsive GIC 0 0 0 0 0 19,105 GIC C Three-year benefit responsive GIC 93,877 0 0 0 0 97,791 GIC D Four-year benefit responsive GIC 3,904 118,526 0 0 0 126,770 GIC E Five-year benefit responsive GIC 1,197 1,507 39,924 0 0 43,959 GIC F Seven-year benefit responsive GIC 650 819 16,702 10,139 0 29,032 Total 99,628 120,851 56,627 10,139 0 321,517 OVER-THE-COUNTER (OTC) INTEREST-RATE DERIVATIVES (ASSET DELTA HEDGES -- CONVERT ASSETS TO FLOATING RATE) Pay fixed interest-rate swap A Three-month asset swap for security A 0 0 0 0 0 1,191 Pay fixed interest-rate

swap B Two-year asset swap for security B 0 0 0 0 0 21,758 Pay fixed interest-rate swap C Three-year asset swap for security C 21,816 0 0 0 0 30,161 Pay fixed interest-rate swap D Three-year asset swap for security D 25,830 8,486 0 0 0 35,614 Pay fixed interest-rate swap E Five-year asset swap for security E 1,523 1,804 47,225 0 0 52,067 Pay fixed interest-rate swap F Seven-year asset swap for security F 729 874 6,754 27,164 0 36,048 Pay fixed interest-rate swap G Amortizing asset swap for security G 1,858 815 3,106 1,659 0 9,050 Pay fixed interest-rate swap H Amortizing asset swap for security H 2,756 3,285 51,736 65,663 0 125,844 Pay fixed interest-rate swap I Amortizing asset swap for security I 6,479 7,111 21,566 45,980 11,105 100,616 Total 60,991 22,374 130,388 140,466 11,105 412,348 OTC INTEREST-RATE DERIVATIVES (LIABILITY DELTA HEDGES -- CONVERT LIABILITIES TO FLOATING RATE) Receive fixed interest-rate swap A One-year liability swap for GIC A 0 0 0 0 0 (4,844) Receive fixed interest-rate swap B Two-year liability swap for GIC B 0 0 0 0 0 (19,054) Receive fixed interest-rate swap C Three-year liability swap for GIC C (93,908) 0 0 0 0 (97,617) Receive fixed interest-rate swap D Four-year liability swap for GIC D (4,198) (118,154) 0 0 0 (126,489) Receive fixed interest-rate swap E Five-year liability swap for GIC E (1,281) (1,517) (39,770) 0 0 (43,841) Receive fixed interest-rate swap F Seven-year liability swap for GIC F (692) (824) (16,635) (10,108) 0 (28,953) Total (100,078) (120,495) (56,405) (10,108) 0 (320,798) OTC INTEREST-RATE DERIVATIVES (ASSET GAMMA HEDGES -- MITIGATE MBS PREPAYMENT OPTIONS) European swaption A to receive fixed One-year forward/ nine-year swap for MBS (shortening risk) (1,442) (1,814) (7,349) (52,957) 0 (56,647) European swaption B to receive fixed One-year forward/ nine-year swap for MBS (shortening risk) (1,442) (1,814) (7,349) (52,957) 0 (56,647) European swaption C to pay fixed One-year forward/ nine-year swap for MBS (extension risk) 1,389 1,748 7,131 70,778 0 71,929 Total (1,495) (1,880) (7,566) (35,136) 0 (41,365) OTC INTEREST-RATE DERIVATIVES (LIABILITY GAMMA HEDGES -- MITIGATE BENEFIT-RESPONSIVE OPTIONS IN GICS) European swaption D to pay fixed One-year forward/ four-year swap for benefit resposive GIC liabilities 2,614 3,291 94,393 0 0 80,813 Total** (8,350) (8,573) 8,811 15,110 231 1,957 *Net change in modeled market value for a 1 basis point upward movement in rates for the relevant fixed income assets, GICs and OTC derivatives. Once Standard & Poor's determines the magnitude of the dollar gain or loss a company will experience at each specified point on the yield curve for each 1 bp upward movement in rates (i.e., DV01 values), statistical analysis is used to determine the magnitude of the rate shift that is appropriate to apply to each exposure. The rate shifts applied to the various exposure points along the yield curve are referred to as interest-rate volatilities (i.e., simulated rate movements). The interest-rate volatilities are determined by calculating the annualized standard deviation of historical interest-rate movements experienced at each relevant point along the yield curve. Standard & Poor's analyzes rate movements over the past one, five and 10 years, and bases the applied volatilities on the most volatile (conservative) period. The time period over which the standard deviation's movements are based (i.e., expected monthly, quarterly, semi-annual, or annual movement) depends on the type of financial product company being analyzed and a subjective evaluation of the company's interest-rate risk management techniques, which includes consideration of the company's frequency of risk analysis and reporting. The total simulated movement in interest rates (number of standard deviations) applied to the DV01 values is based on the company's rating and the corresponding targeted statistical level of confidence. These are illustrated in Table 3 above. The interest-rate volatilities that are applied in the calculation of capital adequacy for the illustrative GIC book are based on a 2.57 standard deviation annual movement and are detailed in Table 6. Table 6 Applied Interest Rate Volatilities for 'AA' Rated Company (Basis Points) RISK POINT ONE MONTH THREE MONTHS SIX MONTHS 12 MONTHS 24 MONTHS 36 MONTHS 48 MONTHS 60 MONTHS 120 MONTHS 360 MONTHS 226 226 226 201 201 201 201 195 195 193 Based on an annualized 2.57 standard deviation annual movement. Once the interest-rate volatilities are determined, they are multiplied by the DV01 values to produce the gross simulated gains or losses at each point along the yield curve. For example, if a company showed a DV01 value of $1,000 at the two-year point, and Standard & Poor's applied a volatility of 200 bps, the simulated gain would be $200,000. If a company shows a loss based on the applied increase in rates, it is considered to be long at that point on the curve and short if it experiences a gain. Typically, companies have long exposure at some points and short exposures at other points. Depending on the covariance between the points (i.e., the amount of movement expected for one point based on a

movement in the other point), the short and long exposures may somewhat cancel each other out. This is reflected in Standard & Poor's model. The gross simulated gains or losses (short and long exposures) along the yield curve are then combined into larger risk buckets. In other words, the exposures within certain maturity or tenor ranges are combined and the exposures are netted. Therefore, the long and short positions within each risk bucket are given full offset against each other. Since the designation of risk-bucket parameters will have an impact on the measured net exposure, the appropriate risk buckets for a company are designated after considering the risk profile of the overall portfolio and the correlation between various points on the yield curve. Standard & Poor's method of netting within the risk buckets is based on a relaxed assumption that perfect covariance exists between points within the risk buckets. The gross incremental capital charge for mismatch risk, which makes the more conservative assumption that perfect negative covariance exists between the risk buckets, is calculated by aggregating the absolute value of the gross exposures for each risk bucket along the curve. The tenor/maturity parameters of the risk buckets and the calculated gross incremental capital charge for delta risk for the illustrated example application are detailed below. Table 7 MR-1 Delta Risk -- Calculation of Gross Capital Charge for Illustrative Benefit Responsive Guaranteed Investment Contract (GIC) Book INDIVIDUAL RISK POINT EXPOSURES "BUCKETED" RISK POINT EXPOSURES RISK POINT DV01S* ($) VOLATILITIES APPLIED (BASIS POINTS) EXPECTED GAIN/LOSS ($) RISK POINTS COMBINED DV01S ($) VOLATILITIES APPLIED (BASIS POINTS) COMBINED GAIN/LOSS ($) GROSS INCREMENTAL CAPITAL CHARGE ($) One month (2,532) 226 (572,978) One to six months (1,526) 226 (345,312) 345,312 Three months 48,520 226 10,979,315 Six months (47,514) 226 (10,751,649) 12 months 4,600 201 922,669 12 months 4,600 201 922,669 922,669 24 months (8,346) 201 (1,673,909) 24 months (8,346) 201 (1,673,909) 1,673,909 36 months (8,350) 201 (1,674,751) 36 to 48 months (16,923) 201 (3,394,170) 3,394,170 48 months (8,573) 201 (1,719,419) 60 months 8,811 195 1,721,902 60 months 8,811 195 1,721,902 1,721,902 120 months 15,110 195 2,952,828 360 months 231 193 44,492 120 to 360 months 15,340 194 2,978,190 2,978,190 Totals 1,957 228,499 Totals 1,957 209,370 11,036,152 *Net change in modeled market value for a one basis point upward movement in rates for the relevant fixed income assets, GICs and over-the-counter derivatives. Once the gross incremental capital charge for MR-1 has been determined, Standard & Poor's analyzes and determines the potentially beneficial effect that covariance between the risk buckets may have, which is ignored in the calculation of gross incremental capital adequacy. In other words, for a given movement in rates, the expected gains or losses from one risk bucket might partially offset gains or losses in another risk bucket. Standard & Poor's uses available sources to determine the covariance (correlation coefficient or rho) that exists between the various risk buckets along the yield curve. The correlation coefficients are expressed in a five-by-five matrix (or with dimensions that are equivalent to the number of risk buckets). An additional, equally dimensioned matrix is created with the product of the gross exposures (volatility multiplied by the DV01 value) for each risk bucket, multiplied by each other. The company's net exposure to mismatch risk, considering covariance, is determined by taking the square root of the sum of the products of the matching coordinates on the 5-by-5 matrices. The sum of these products provides Standard & Poor's with the expected loss, after taking into account the covariance between the risk buckets. Assuming no, or minimal, negative correlation exists between the various risk buckets, the net exposure to mismatch risk will typically be lower than the gross exposure, calculated without considering covariance. The total capital adequacy for mismatch risk (MR-1) is calculated by subtracting between 50% and 75% of the difference between the gross capital charge and the net capital charge from the gross capital charge. Companies that experience a benefit from gamma exposure may get a reduction on their incremental capital charges for mismatch risk. The calculation of the incremental capital charge for mismatch risk for illustrative benefit-responsive GIC book is detailed below. Table 8 MR-1 Delta Risk -- Calculation of Net Incremental Capital Charge for Illustrative Guaranteed Investment Contract (GIC) Book MATRIX A - APPLIED CORRELATION COEFFICIENTS BETWEEN RISK BUCKETS BUCKET RANGE ONE TO SIX MONTHS 12 MONTHS 24 MONTHS 36 TO 48 MONTHS 60 MONTHS 120 TO 360 MONTHS One to six months 1.00 0.90 0.85 0.79 0.70 0.42 12 months 0.90 1.00 0.96 0.91 0.70 0.54 24 months 0.85 0.96 1.00 0.94 0.77 0.59 36 to 48 months 0.79 0.91 0.94 1.00 0.84 0.61 60 months 0.70 0.70 0.77 0.84 1.00 0.78 120 to 360 months 0.42 0.54 0.59 0.61 0.78 1.00 MATRIX B - PRODUCT OF EXPECTED LOSSES ON RISK

BUCKETS DETAILED IN TABLE 7 ($MIL.) BUCKET RANGE ONE TO SIX MONTHS 12 MONTHS 24 MONTHS 36 TO 48 MONTHS 60 MONTHS 120 TO 360 MONTHS One to six months 119,240 (318,609) 578,021 1,172,048 (594,593) (1,028,405) 12 months (318,609) 851,318 (1,544,463) (3,131,694) 1,588,745 2,747,883 24 months 578,021 (1,544,463) 2,801,971 5,681,532 (2,882,307) (4,985,219) 36 to 48 months 1,172,048 (3,131,694) 5,681,532 11,520,390 (5,844,427) (10,108,484) 60 months (594,593) 1,588,745 (2,882,307) (5,844,427) 2,964,945 5,128,151 120 to 360 months (1,028,405) 2,747,883 (4,985,219) (10,108,484) 5,128,151 8,869,617 MATRIX C -- PRODUCT OF MATRICES A AND B ($MIL.) BUCKET RANGE ONE TO SIX MONTHS 12 MONTHS 24 MONTHS 36 TO 48 MONTHS 60 MONTHS 120 TO 360 MONTHS One to six months 119,240 (286,748) 491,318 925,918 (416,215) (431,930) 12 months (286,748) 851,318 (1,488,863) (2,859,237) 1,107,355 1,483,857 24 months 491,318 (1,488,863) 2,801,971 5,363,366 (2,204,965) (2,941,279) 36 to 48 months 925,918 (2,859,237) 5,363,366 11,520,390 (4,932,696) (6,166,175) 60 months (416,215) 1,107,355 (2,204,965) (4,932,696) 2,964,945 3,999,957 120 to 360 months (431,930) 1,483,857 (2,941,279) (6,166,175) 3,999,957 8,869,617 Totals 401,583 (1,192,318) 2,021,548 3,851,565 518,382 4,814,047 Sum of totals 10,414,806 Square root of sum (000s) 3,227 Gross capital charge from Table 7 (000s) 11,036 Net mismatch risk exposure (reflects covariance) (000s) 3,227 Difference (000s) 7,809 Percentage of difference subtracted from gross capital charge 50% Net MR-1 delta capital charge (000s) 7,132 Interest Rate Gamma Risk Charge (MR-2) Price gamma, or convexity, is a measurement of the nonlinear relationship between market values and changes in yield. Price gamma relating to an insurance company's fixed-income assets, liabilities, and OTC derivatives can be positive or negative and, therefore, can have a detrimental or beneficial effect on net market values, for a given change in rates. The FPC model provides Standard & Poor's with a tool to analyze both the beneficial and detrimental impact of price gamma. The incremental capital adequacy relating to interest-rate gamma risk or negative convexity, exclusive of that relating to options embedded in liabilities, is designated in the model as an MR-2 charge. The MR-2 charge is based on a quantification of a company's specific exposure to adverse nonlinear changes in the mark-to-market values of its fixed-income assets, liabilities (non-option based changes), and OTC derivatives, that occur as interest rates move. The benefit of net positive convexity or gamma is reflected in the model by making provisions for a reduction in the MR-1 charge. While a portion of price gamma occurs due to the hyperbolic relationship between price and yield, the predominant source of negative price gamma (or negative convexity) for most insurance companies is typically the options embedded in their assets and liabilities, such as the benefit responsive options in their GICs or the prepayment option in their MBS. The treatment of capital adequacy relating to options embedded in a company's liabilities is analyzed under the MR-6 module, and is discussed below. Since the ability to exercise the embedded options is typically not under the control of the insurance companies, they are said to be short the options. Most insurance companies tend to be predominantly short the embedded options in both their assets and liabilities. As the magnitude of adverse interest-rate movements increase, the market value of assets with short embedded options may be subject to larger losses or smaller gains than would be implied by the measurement of delta risk, which is analyzed in the MR-1 module using price sensitivities based on small movements in rates. For example, when Standard & Poor's analyzes a company's exposure to rate changes along the yield curve in the MR-1 module, the company provides the change in the value of its MBS for a 1 bp movement in rates (DV01s) at various points along the yield curve. These DV01s are effectively multiplied by the total applied interest-rate volatilities, which are much larger than 1 bp. In reality, since the prepayment rates are subject to change as rates move, the change in value of the MBS will most likely be different from what is implied by the product of the DV01 values and the applied volatilities. Although insurance companies can be long options in their fixed-income assets, such as put options, the largest source of beneficial positive gamma for insurance companies is generally the OTC derivative options of which they are long. These are typically purchased to offset the embedded options of which they are short. Companies that are long options may produce larger gains or smaller losses than would be implied by measurement of delta risk alone. To model interest-rate gamma, the insurance company being analyzed provides Standard & Poor's with the net combined change in market value for all of its interest-rate sensitive positions analyzed in the MR-1 module, including fixed-income assets, liabilities, and OTC interest-rate derivatives for several incremental upward and

downward parallel shifts in interest rates. The incremental shifts must include one shift that is lower in magnitude and one shift that is greater in magnitude than the standard deviation movement that coincides with the rating category (the applied market volatility). In addition, the company provides Standard & Poor's with the change in market value for a 1 bp parallel shift in the yield curve for both the up and down scenarios. In the illustrative example application, Standard & Poor's assumed the company purchased three OTC interest-rate swaptions to hedge away a portion of the negative convexity relating to its MBS. The company purchased a swaption to pay, fixed on an interest-rate swap, to protect against the MBS extending in a rising interest-rate environment, and two swaptions to receive, fixed to protect against MBS shortening in a falling rate environment. The gamma exposure for the illustrative benefit-responsive GIC book is detailed below in Table 9. Table 9 Gamma Exposures for Illustrative Benefit-Responsive Guaranteed Investment Contract (GIC) Book -- Modeled Market Value Change Based on Applied Rate Shifts APPLIED INTEREST-RATE SHIFTS (BASIS POINTS) INSTRUMENT TYPE ISSUER/DESCRIPTION DOWN 200 DOWN 150 DOWN 100 DV01 UP 100 UP 150 UP 200 FIXED-INCOME SECURITIES (FUNDED ASSETS) Corporate security A National Rural Utilities 244,619 183,126 121,859 (1,214) (120,970) (181,124) (241,061) Corporate security B General Mills 4,694,581 3,499,561 2,318,930 (22,884) (2,263,839) (3,375,593) (4,474,161) Corporate security C Aon Corp. 6,559,246 4,881,299 3,229,081 (31,767) (3,131,569) (4,661,864) (6,169,056) Corporate security D Ford Motor Credit 7,748,527 5,758,863 3,804,701 (37,329) (3,671,183) (5,458,388) (7,214,202) Corporate security E Bank of America 11,076,107 8,197,979 5,393,984 (52,421) (5,121,982) (7,585,745) (9,987,119) Corporate security F Paine Webber Group 8,641,937 6,334,363 4,128,052 (39,334) (3,778,245) (5,546,461) (7,239,136) Asset-backed securities -- security G The Money Store (home equity) 1,453,724 1,133,018 789,518 (8,570) (883,885) (1,337,533) (1,790,427) Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) 3,513,500 1,849,500 1,441,500 (73,276) (11,084,100) (16,793,100) (22,297,100) MBS -- security I Ginnie Mae (pass-through) 4,599,500 5,741,500 6,957,500 (102,951) (19,319,500) (25,505,100) (31,627,300) Total 48,531,741 37,579,209 28,185,125 (369,745) (49,375,273) (70,444,908) (91,039,562) GICS (FUNDING LIABILITIES) GIC A One-year benefit responsive GIC (987,397) (737,805) (490,053) 4,861 482,904 721,719 958,799 GIC B Two-year benefit responsive GIC (3,920,381) (2,922,235) (1,936,242) 19,105 1,889,731 2,817,576 3,734,292 GIC C Three-year benefit responsive GIC (20,268,443) (15,071,768) (9,962,592) 97,791 9,632,441 14,328,796 18,947,276 GIC D Four-year benefit responsive GIC (26,532,593) (19,683,347) (12,980,491) 126,770 12,435,868 18,457,616 24,352,697 GIC E Five-year benefit responsive GIC (9,288,719) (6,874,941) (4,523,404) 43,959 4,295,050 6,360,951 8,374,476 GIC F Seven-year benefit responsive GIC (6,240,130) (4,597,754) (3,011,664) 29,032 2,810,721 4,145,342 5,435,118 Total (67,237,663) (49,887,850) (32,904,446) 321,517 31,546,715 46,832,000 61,802,658 OVER-THE-COUNTER (OTC) INTEREST RATE DERIVATIVES (ASSET DELTA HEDGES - CONVERT ASSETS TO FLOATING RATE) Pay fixed interest rate swap A Three-month asset swap for security A (239,932) (179,619) (119,528) 1,191 118,662 177,671 236,468 Pay fixed interest rate swap B Two-year asset swap for security B (4,459,292) (3,324,698) (2,203,411) 21,758 2,152,430 3,209,978 4,255,316 Pay fixed interest rate swap C Three-year asset swap for security C (6,231,080) (4,636,239) (3,066,414) 30,161 2,971,693 4,423,084 5,852,054 Pay fixed interest rate swap D Three-year asset swap for security D (7,462,713) (5,545,379) (3,662,962) 35,614 3,531,763 5,250,123 6,937,664 Pay fixed interest rate swap E Five-year asset swap for security E (11,007,819) (8,146,312) (5,359,256) 52,067 5,086,295 7,531,914 9,914,972 Pay fixed interest rate swap F Seven-year asset swap for security F (7,927,322) (5,808,803) (3,784,388) 36,048 3,459,348 5,076,686 6,623,844 Pay fixed interest rate swap G Amortizing asset swap for security G (1,912,732) (1,415,139) (930,779) 9,050 882,940 1,307,444 1,721,126 Pay fixed interest rate swap H Amortizing asset swap for security H (24,970,029) (18,387,420) (12,037,491) 125,844 11,210,138 16,524,588 21,655,123 Pay fixed interest rate swap I Amortizing asset swap for security I (29,959,342) (21,729,289) (14,020,342) 100,616 12,395,585 18,061,474 23,408,478 Total (94,170,261) (69,172,898) (45,184,571) 412,348 41,808,854 61,562,962 80,605,045 OTC INTEREST RATE DERIVATIVES (LIABILITY DELTA HEDGES -- CONVERT LIABILITIES TO FLOATING RATE) Receive fixed interest rate swap A One-year liability swap for GIC A 985,423 736,075 488,734 (4,844) (480,938) (718,532) (954,234) Receive fixed interest rate swap B Two-year liability swap for GIC B

3,913,333 2,916,300 1,931,856 (19,054) (1,883,680) (2,807,892) (3,720,580) Receive fixed interest rate swap C Three-year liability swap for GIC C 20,246,134 15,052,079 9,947,526 (97,617) (9,609,913) (14,292,314) (18,895,102) Receive fixed interest rate swap D Four-year liability swap for GIC D 26,492,146 19,649,567 12,955,723 (126,489) (12,402,568) (18,404,631) (24,278,088) Receive fixed interest rate swap E Five-year liability swap for GIC E 9,271,119 6,860,631 4,513,144 (43,841) (4,282,104) (6,340,593) (8,346,114) Receive fixed interest rate swap F Seven-year liability swap for GIC F 6,226,774 4,587,039 3,004,075 (28,953) (2,801,531) (4,131,019) (5,415,332) Total 67,134,929 49,801,691 32,841,058 (320,798) (31,460,734) (46,694,981) (61,609,450) OTC INTEREST RATE DERIVATIVES (ASSET GAMMA HEDGES -- MITIGATE MBS PREPAYMENT OPTIONS) European swaption A to receive fixed One-year forward/nine-year swap for MBS (shortening risk) 25,870,566 16,783,173 9,323,378 (56,647) (3,645,079) (4,351,680) (4,708,621) European swaption B to receive fixed One-year forward/nine-year swap for MBS (shortening risk) 25,870,566 16,783,173 9,323,378 (56,647) (3,645,079) (4,351,680) (4,708,621) European swaption C to pay fixed One-year forward/nine-year swap for MBS (extention risk) (5,617,560) (5,355,906) (4,568,153) 71,929 9,098,175 14,811,306 20,884,321 Total 46,123,573 28,210,439 14,078,603 (41,365) 1,808,018 6,107,946 11,467,079 OTC INTEREST RATE DERIVATIVES (LIABILITY GAMMA HEDGES -- MITIGATE BENEFIT RESPONSIVE OPTIONS IN GICS) European swaption D to pay fixed One-year forward/four-year swap for benefit responsive GIC liabilities (362,265) (348,321) (299,630) 80,813 575,804 922,731 1,284,091 Total* 382,319 (3,469,409) (2,984,232) 1,957 (5,672,421) (2,636,981) 1,225,770 *Excludes changes in market value relating to swaption purchase to mitigate liability option risk, which is analyzed in a separate section. It would be extremely challenging, or even impossible, to develop a consistent and meaningful analytical process based on a comparative measurement of price sensitivity (i.e., the change in market value for a given change in rates), such as an option-adjusted duration, that reflects the embedded options an insurance company is short, in both its assets and liabilities. Therefore, in designing the FPC model, Standard & Poor's developed methodology that measures a company's exposure to gamma risk by comparing the expected change in the market value of the portfolio of assets, liabilities, and OTC derivative instruments, based on small shifts relative to the modeled changes actually experienced for larger shifts. As a simplified example, if a company's exposure at the two-year part of the curve showed an expected change in net market value for the combined portfolio of $10,000 dollars for a 1 bp shift upward, ignoring price gamma, it would expect a market value change or loss of $1,000,000 for a 100 bp shift ($10,000 multiplied by 100). However, if after a 100 bp shift is applied to the two-year point on the curve and the modeled change in combined market value (loss) is actually $1,500,000, the additional loss of $500,000 would be attributed to negative price gamma. The incremental capital allocated for interest-rate gamma risk is calculated by comparing the net change in market value for the entire portfolio (of assets, liabilities, and OTC derivatives) that is implied using the DV01 for the initial 1 bp parallel shift (delta exposure) with the actual modeled changes in value for each incremental parallel shift. The total incremental parallel rate shifts that are applied in each direction are calculated by averaging the volatilities used for the risk buckets in the MR-1 module. Standard & Poor's recognizes that the use of parallel rate shifts when analyzing interest-rate gamma risk may produce somewhat different results than testing for gamma by shifting individual points along the curve in situations in which insurance companies are employing hedge strategies without consideration of basis relationships. Therefore, part of the analytical process involves consideration of the company's specific hedging methodologies, which may result in a quantified adjustment to the capital charge. For each incremental shift, Standard & Poor's considers the total expected change in value for the range and then nets out the change in value implied from the delta exposures. The remaining incremental change in value is considered to be a result of price gamma. Standard & Poor's uses incremental shifts, rather than one large shift, because the final incremental shift typically incorporates only a partial shift relative to the shifts provided by the companies. Furthermore, incremental shifts allow analysis of the gamma characteristics relating to a company's hedge strategies (i.e., how in-the-money or out-of-the-money they are). The incremental losses in market value due to gamma are summed separately for the incremental downward rate shifts and the incremental upward rate shifts. The largest aggregate loss, if any, is determined based on the up and down rate scenarios. The incremental capital adequacy for gamma for a given rating category is

the summation of the absolute values of these losses in the worst-case directional rate scenario. For example, suppose a company reports an expected total loss in portfolio market value of $500,000 for an upward parallel rate shift of 50 bps and an additional loss in market value of $280,000 for the incremental upward shift between 51 and 100 bps. The company also expects a total gain of $370,000 for a downward parallel rate shift of 50 basis points and an additional gain in market value of $260,000 for the incremental downward shift between 51 and 100 bps. The DV01 value based on the initial parallel shift upward of 1 bp is a loss of $5,000. Therefore, the expected loss for an 80 bp upward movement in rates, based on the initial DV01 value, would be $400,000 (or $5,000 multiplied by 80). Since the company experiences positive gamma in the downward scenario (the gains are larger than expected using the initial DV01 value alone), Standard & Poor's capital allocation will be based on the scenario in which rates are shifted upward. Since Standard & Poor's does not have the actual expected change in market value for the rate shift between 51 and 80 bps, the expected loss of $280,000 is divided by 49 bps to arrive at the total DV01 value for the range, which is $5,714. Standard & Poor's relaxes the model and assumes gamma remains constant over each range. Standard & Poor's would then multiply the quotient by 29 bps to arrive at the expected change in total market value for the 51 bps-80 bps range, which is $165,706 (or $5,714 multiplied by 29). The total capital charge for interest-rate risk gamma for the company would be calculated by taking the sum of the total expected changes in market value and netting out the change expected using the initial DV01 value, which equals $265,706 or ($500,000 + $165,706 - $400,000). In cases in which a company uses out-of-the-money negative gamma hedging strategies, it is possible that the initial incremental rate shifts produce negative gamma (losses due to gamma), while the latter shifts produce sufficient positive gamma, that gamma considered over the entire range of shifts is positive (i.e., if one large shift were used, the company would appear to have no exposure from negative gamma). An actual occurrence of the larger shifts that cause the out-of-the-money options to gain significant value are statistically less likely, and these strategies may not provide a benefit to the company for smaller rate movements. Standard & Poor's methodology of adding only the incremental losses and not netting them with the incremental gains was designed to measure gamma risk in consideration of this. In cases where the company experiences gains from gamma in both the up and down scenarios, the smallest gain is determined (i.e., the aggregate gains associated with either the up or the down scenario). The gains are summed and applied against the incremental capital allocation for interest-rate mismatch risk (MR-1). However, credit for positive gamma may be limited to the amount calculated after applying a lower volatility, to avoid giving full credit for option hedging strategies that are well out of the money. Furthermore, to receive credit for positive gamma, all the incremental shifts must produce gains from positive gamma, which allows Standard & Poor's to avoid giving credit for out-of-the-money option strategies that may not benefit the company unless a significant tail-event movement in interest rates occurs. The calculation of the incremental capital charge for gamma risk for the illustrative GIC book is detailed below. Table 10 MR-2 Gamma Risk -- Calculation of Incremental Capital Charge for Illustrative Guaranteed Investment Contract (GIC) Book SIMULATED DOWNWARD SHIFTS (BASIS POINTS) SIMULATED UPWARD SHIFTS (BASIS POINTS) MARKET VALUE CHANGE IN PORTFOLIO ($) DOWN 200 DOWN 150 DOWN 100 UP 100 UP 150 UP 200 Expected incremental change in market value (97,850) (97,850) (195,700) 193,743 97,850 97,850 Modeled incremental change in market value 3,851,728 (485,178) (2,984,232) (5,672,421) 3,035,440 3,862,751 Unexpected gain or loss realated to gamma 3,949,578 (387,328) (2,788,532) (5,866,164) 2,937,590 3,764,901 (3,175,859) (5,866,164) 5,866,164 Based on DV01 value of 1,957 for one basis point upward parallel shift. Liability Option Risk Charge (MR-6) The incremental capital adequacy for risk related to options embedded in liabilities is designated in the model as an MR-6 charge. The MR-6 charges are calculated using various methodologies that quantify the potential losses a company could incur if the options embedded in its liabilities are exercised when interest rates or other market variables move adversely. As in the case of options embedded in assets, liabilities with embedded options may produce larger losses or smaller gains than would be implied in Standard & Poor's analysis of mismatch risk in the MR-1 section of the model. Since insurance companies originate many different types of non-standard funding liabilities, Standard & Poor's has typically worked with the companies to develop methodology that effectively analyzes the liabilities in accordance with the statistical framework of the model, rather than develop

less exacting criteria in advance that attempt to capture all the various liability types. As an example, Standard & Poor's determines the MR-6 charges relating to the options embedded in benefit-responsive GICs. Benefit responsive GICs are fixed rate investment vehicles sold by insurance companies predominately to defined contribution pension plans (401Ks) with an option to withdraw funds under limited circumstances at "book value", regardless of the movement in interest rates. These embedded options have strict limitations, which make them different from many other options. Furthermore, they are sometimes exercised at a time that is not economically beneficial to the GIC investor, but beneficial to the GIC writer. To the extent unanticipated withdrawals occur, a GIC provider will experience a positive or negative economic impact. The potential gains or losses incurred due to these embedded options are extraneous to potential losses relating to mismatch risk. If rates have declined since settlement, the market value of a GIC is less than its book value, and unexpected withdrawals from the GIC will produce a net economic gain for an issuer. If rates have risen and the market value of a GIC is greater than its book value, unexpected withdrawals from the GIC will produce a net economic loss. In understanding this concept, it is important to consider the GIC liabilities as negative numbers. Therefore, as rates decline, the absolute value of a GIC increases but it becomes a larger negative number and vice versa for an increase in rates. Furthermore, applying an upward movement in rates at a particular point in time in conjunction with benefit-responsive activity would not necessarily translate into a loss for a company. For example, if, after a company writes a GIC, rates drop 300 bps and then a simulated upward shift in rates of 200 bps is applied (a net decrease of 100 bps), the market value of the GIC would still be below the book value, and a benefit-responsive withdrawal would produce a gain for the company. In addition to the direction and magnitude of changes in rates, another factor that affects the amount of the gain or loss incurred is the magnitude of benefit-responsive withdrawals experienced (e.g. 5%). The greater the withdrawals, the greater the gain or loss will be for a given change in rates. The historical benefit-responsive withdrawals experienced by a company are largely a function of its underwriting process. In determining the expected losses from benefit-responsive activity, Standard & Poor's developed methodology that reflects both a simulated movement in rates relative to those at the inception of the GIC contracts, as well as the actual historical benefit-responsive activity experienced by the company. When calculating an MR-6 charge, Standard & Poor's applies a benefit-responsive withdrawal assumption that is the greater of 5% or the mean historical annualized benefit-responsive activity experienced plus a standard deviation movement around the mean that is consistent with the statistical level of confidence described in Table 3 above. If historical data is not available for at least five years, or the analyst recommends it based on a subjective evaluation of the company's underwriting process, the analyst can increase this minimum threshold to 10%. The calculation of the benefit-withdrawal assumption for the 'AA' rated example company used in the illustration is detailed below. Table 11 Example Calculation of Benefit Responsive Withdrawal Assumption AVERAGE GUARANTEED INVESTMENT CONTRACT FUND BALANCE BENEFIT RESPONSIVE PAYMENTS ($) BENEFIT RESPONSIVE WITHDRAWAL (%) 2001 1,000,000,000 850,000 0.09 2000 975,000,000 438,750 0.05 1999 950,000,000 11,875,000 1.25 1998 925,000,000 46,250,000 5.00 1997 900,000,000 450,000 0.05 1996 875,000,000 18,812,500 2.15 1995 850,000,000 14,025,000 1.65 Weighted average 1.43 2.57 standard deviations 4.57 Benefit responsive withdrawal assumption 6.00 A normal distribution is assumed. The insurance company being analyzed provides Standard & Poor's with the market value and book value for a percentage portion of its GIC portfolio, equivalent to the applied benefit-responsive withdrawal assumption (considered as a percentage of book value) with the lowest absolute dollar prices after applying a series of upward rate shifts. The upward rate shift that is applied, prior to determining which contracts to include in Standard & Poor's analysis, is the same as the parallel shift used in the analysis of price gamma. Once the contracts are determined, the market value and book values of the specified contracts are reported for series of applied rate shifts. For example, if a company's entire benefit-responsive GIC book has a book value of $1 million, and the assumed benefit-responsive withdrawal activity is 5%, the total book value of the GICs included in the analysis would be $50,000. The individual GICs that comprise the 5% would be determined by adding the book value of the contracts with the lowest absolute dollar prices after the applied rate shift, until the 5% target is reached. Standard & Poor's determines the incremental capital adequacy for the liability option risk

relating to a portfolio of benefit-responsive GICs by comparing the modeled mark-to-market value of the entire designated portion of the portfolio after applying incremental rate shifts with the book value. The potential losses on the specified GICs, if any, given the applied rate movements and the assumed benefit-responsive activity, will be determined by subtracting the total book value from the total modeled market value, after applying the designated rate shifts. The absolute value of the losses will be the incremental capital charge relating to benefit-responsive GIC liabilities. Standard & Poor's views this as a proxy for the economic loss the company would incur if these GICs were unexpectedly withdrawn. In the unlikely scenario in which this methodology produces a gain, capital credit will not be given. In cases in which a company wants to receive credit for OTC derivative option strategies used to offset or mitigate its exposure to benefit-responsive activity, it must designate and segregate the options used as hedge vehicles from other options that are analyzed under the other modules of the FPC model. The company must provide Standard & Poor's the expected change in the market value of the options for incremental upward shifts in interest rates that correspond to the shifts used to evaluate the change in the value of the designated GIC portfolio. The gain on the options will be applied to directly offset the losses, if any, determined when comparing the book values and market values after the incremental rate shifts. However, to properly analyze out-of-the-money option strategies, which may provide the majority of the benefit during tail events, incremental capital adequacy is determined based on the incremental shift that produces the greatest loss. If the described methodology results in an MR-6 charge that is lower than 25 bps, a minimum charge of 25 bps is applied to the entire principal value of a benefit-responsive GIC book. In the illustrative example, Standard & Poor's assumes the company analyzes its liability gamma separately and limits its potential losses relating to the benefit-responsive options by buying OTC derivative interest-rate swaptions. The OTC swaptions to pay fixed, gain value as rates rise, which acts as an offset to the potential losses incurred if funds are unexpectedly drawn out of the GICs in the adverse interest-rate scenario. The calculation of the incremental capital charge for liability option risk for the illustrative GIC book is detailed below in Table 12. Table 12 MR-6 Liability Option Risk Analysis for Illustrative Benefit Responsive Guaranteed Investment Contract (GIC) Book (A) (B) (C) (D)=(B) - (C) (E) = (C)/(A) (F) (G) = (D) + (F) (H) = ABSOLUTE VALUE (G) (I) = (H)/(A) RATE SHIFT (BASIS POINTS) TOTAL GIC BOOK VALUE (BV) ($) MARKET VALUE OF GICS WITHDRAWN (WD) ($) BV + ACCRUED INTEREST (AI) OF GICS WD ($) GAIN OR LOSS = (MV - (BV + AI)) ($) ACTUAL BV + AI AS % OF BOOK* MV CHANGE OTC HEDGE ($) GAIN OR LOSS NET OF HEDGES ($) MR6-CAPITAL BASED ON SCENARIO ($) MR6-CAPITAL AS % OF BV 0 1,000,000,000 60,333,674 60,012,759 320,915 6 0 320,915 0 0.000 +1 1,000,000,000 60,309,584 60,012,759 296,826 6 4,557 301,383 0 0.000 +10 1,000,000,000 60,092,780 60,012,759 80,021 6 46,877 126,898 0 0.000 +50 1,000,000,000 59,129,204 60,012,759 (883,555) 6 261,010 (622,544) 622,544 0.062 +100 1,000,000,000 57,924,734 60,012,759 (2,088,025) 6 575,804 (1,512,220) 1,512,220 0.151 +200 1,000,000,000 54,885,996 60,012,759 (5,126,763) 6 1,284,091 (3,842,672) 3,842,672 0.384 Net MR-6 Charge: 0.384 *Based on benefit responsive withdrawal assumption of 6%. Analysis of Credit Risk The FPC model allows Standard & Poor's to analyze the specific credit risk an insurance company is exposed to and determines the incremental capital adequacy for the company's various credit exposures, which might relate to fixed-income securities, credit derivatives, and counterparty credit exposures. Although various types of credit exposures are analyzed using the model, the incremental capital adequacy for each type is calculated in a similar manner by applying Standard & Poor's credit default and salvage value studies to determine the expected losses associated with the credit exposures. In addition to the capital adequacy based on expected losses, Standard & Poor's analyzes the dispersion or concentration of a company's credit exposures relative to its capital base, and an additional capital charge may be assessed based on the dispersion or concentration of a company's credit exposures relative to its capital base. This charge is applied to companies that have single-credit concentrations that exceed 10% or 15% of their capital base for noninvestment-grade and investment-grade credits, respectively. For financial product company subsidiaries that are guaranteed by a parent, the concentrations are measured relative to the parent's capital base. Since expected losses are determined based on a percentage of the company's credit exposures, they may understate the actual loss experienced if a single credit exposure does default. For example, if a company had exposure to an issuer of $10 million and the applicable default

factor was 3%, the expected loss may be assumed to be $300,000 less the salvage value, if any. However, if the issuer actually defaulted on its obligation to the company, the loss would be $10 million less the salvage value. Standard & Poor's analysis of credit-concentration risk considers the impact on capital of credit losses based on the potential actual magnitude of the losses. The methodology for credit-concentration risk is based directly on Standard & Poor's life capital model. However, it is modified to allow for the application of the credit-risk mitigation techniques used by the company, such as break clauses, collateralization provisions, and credit derivatives. A detailed calculation of this charge in its entirety is available on Standard & Poor's web site at www.standardandpoors.com. In determining capital adequacy relating to fixed-income assets and other credit exposures that are not rated by Standard & Poor's, an applicable credit rating will be designated for purposes of the model. The designated rating will be based on the information provided by the company. In some instances, Standard & Poor's may request the company to get a shadow rating on certain non-rated complex transactions that create proportionally large credit exposures. Credit exposure to the U.S. government, U.S. government agencies, or U.S. government-sponsored entities (such as FHLMC and FNMA) will be excluded from calculation of capital adequacy relating to credit. In addition, credit exposures to certain other highly rated sovereign entities may also be excluded. Since Standard & Poor's believes a company's potential losses due to transitional downgrades or changes in credit spreads should be more than adequately covered by the incremental capital based on defaults, an analysis of this exposure is not a formal part of the model. Non-Financial Market Related Credit Risk Charge (CR-1) The CR-1 charge is a quantification of incremental capital for the specific credit risk related to a company's fixed-income securities, credit derivatives and other credit exposures that are not directly tied to movements in financial markets. Counterparty credit exposures relating to OTC derivative contracts, which are tied to movements in financial market variables, are analyzed in the CR-2 module. To calculate the CR-1 charge, the company being analyzed provides Standard & Poor's with the $US equivalent par or notional amounts of its fixed-income securities, credit derivatives, and similar credit exposures aggregated by annual maturity or tenor range within each rating category. The exposures should be shown separately by type (e.g., fixed-income securities, credit derivatives). Since credit exposures from preferred stock and other fixed-income issues that do not have a senior position in the event of liquidation get different salvage treatment in the model, they should also be shown separately. After the exposures are aggregated, Standard & Poor's calculates the expected losses using the average cumulative default factors published in Standard & Poor's annual performance studies. The studies, which are based on actual historical default data, provide cumulative average default factors that correspond to the maturity and tenor dates of an observed universe of credit exposures, and are used in the model as a proxy for expected future defaults. Since the model is designed to analyze credit exposures with standard maturity or tenor dates, as well as segmented credit exposures, Standard & Poor's derives the credit default factors applied in the model using transitional cumulative default factors. (An example of a segmented credit exposure would be one in which a company buys a credit derivative that transfers its credit risk for only a portion of the total time it has exposure to a fixed-income security.) Transitional defaults are calculated by taking the difference between the average of the consecutive cumulative default factors published in Standard & Poor's studies for each year. For example, suppose Standard & Poor's studies show that the cumulative historical probability of default for its observed universe of four-year 'A'-rated securities to be 0.80%. From this, one could imply that a total of about 0.80% of 'A'-rated bonds will default by the end of year four. If the similar cumulative observed probability of default for an 'A'-rated bond in year three is 0.55%, the transitional default factor, or the implied defaults that occur between years three and four, is 0.25% (0.80% less 0.55%). The cumulative default factors that are applied to a company's credit exposures with standard maturities or tenors are calculated for each year by taking the summation of the transitional default factors up to and including the year the factor is being calculated, for each given rating category. However, since the actual defaults experienced by a company will vary from the mean (or expected defaults), which are the basis for Standard & Poor's published cumulative default factors, Standard & Poor's adds a variance around the expected default factors applied in the model. The amount of variance added depends on the rating of the company the model is being applied to. For 'BBB', 'A', 'AA' and 'AAA'-rated companies, standard deviations of 1.71, 2.14, 2.57, and 3.0, respectively, are added to

the expected defaults, to derive the gross cumulative default factors. For example, suppose Standard & Poor's wishes to calculate a gross cumulative default factor to apply to an 'AA'-rated company that owns an 'A'-rated security that matures in five years. If the five-year cumulative non-discounted default rate for an 'A'-rated credit is 0.7343%, and the standard deviation is 0.2295%, the gross cumulative default factor would be 1.3244% or (0.734% + (2.57 x 0.2295%)). Furthermore, since the incremental capital adequacy relating to a company's credit exposure is based on defaults that are expected to occur at some future date, Standard & Poor's applies discounting when deriving the final gross cumulative default factors. Prior to aggregating them, Standard & Poor's discounts the transitional default factors and the standard deviation movements using the yield of the on-the-run five-year U.S. treasury security of the prior Sept. 30, less 50 bps. In some instances, Standard & Poor's will reflect the term structure of interest rates when discounting the factors. The gross assumed defaults are then calculated for a company for each rating group and exposure type by taking the product of the aggregated par and notional amounts and the discounted gross cumulative default factors that correspond with the rating on the fixed-income issues, credit derivatives and other exposures, and the upper bound of their maturity or tenor range. The gross assumed defaults are modified by subtracting out a salvage credit to determine the net expected losses. A salvage credit of 45% of the gross assumed defaults is given for investment-grade and non-investment-grade credits that have a senior position in the event of a liquidation. No salvage credit is given for preferred stocks or other subordinated exposures and credit derivatives where no physical delivery is taken. The total CR-1 capital charge is calculated by taking the sum of the net expected losses for the various credit exposure types. The calculation of the incremental capital charge for non-financial market related credit risk for the illustrative GIC book is detailed in Table 13. Table 13 CR-1 Fixed-Income Credit Risk -- Calculation of Incremental Capital Charge for Illustrative Guaranteed Investment Contract (GIC) Book FIXED INCOME SECURITIES (FUNDED ASSETS) MATURITY INSTRUMENT TYPE ISSUER/DESCRIPTION RATING DATE YEARS* PAR AMOUNT ($) APPLIED FACTORS** (%) GROSS CR-1 CHARGES ($) SALVAGE CREDIT (%) NET CR-1 CHARGES ($) Corporate security A National Rural Utilities A+ 1/15/2002 0.18 50,000,000 0.10 48,452 45 26,649 Corporate security B General Mills A- 10/8/2003 1.91 118,750,000 0.43 508,131 45 279,472 Corporate security C Aon Corp. A+ 7/1/2004 2.64 118,750,000 0.43 508,131 45 279,472 Corporate security D Ford Motor Credit BBB+ 1/13/2005 3.18 118,750,000 0.04*** 45,695 45 25,132 Corporate security E Bank of America A+ 10/15/2006 4.93 118,750,000 1.38 1,641,756 45 902,966 Corporate security F Paine Webber Group AA+ 5/16/2011 9.52 50,000,000 2.17 1,085,972 45 597,285 Asset-backed securities (ABS) -- security G Money Store (home equity) AAA 8/15/2039 5.12 25,000,000 0.50 126,068 45 69,337 Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) AAA 7/25/2027 25.71 200,000,000 N.A.**** 0 0 0 MBS -- security I Ginnie Mae (pass-through) AAA 4/15/2030 28.43 200,000,000 N.A.**** 0 0 0 Totals: 1,000,000,000 2,180,313 Total CR-1 Incremental Capital Charge 2,180,313 *Remaining maturity is based on the start date of Nov. 10, 2001. The ABS maturity is based on its average life. Treatment of Credit Derivatives The FPC model is designed to analyze credit derivatives purchased to offset credit exposure on fixed-income securities and other credit exposures as well as credit derivatives written to create exposure, such as cases where insurance companies synthetically create corporate bond exposures (i.e., replication). When offsetting credit derivatives are purchased from counterparties rated 'BBB' or higher, the expected credit default factor on the combined credit exposure will be based on the product of the default factors associated with the rating on the credit exposure on the cash position, and the rating on the counterparty to the credit derivative. However, to add conservatism, Standard & Poor's assumes that the probabilities of the issuer of the cash position and of the counterparty to the credit derivative defaulting are not independent of each other. Therefore, the applicable default factor is calculated by multiplying the product of the two gross cumulative default factors by three, or by using an assumed covariance factor, in place of one of the gross cumulative default factors. This product is then multiplied by the applicable notional or par amount to arrive at the gross assumed defaults. The previously described methodology would then be applied to determine the default charges and incremental capital adequacy. Credit derivatives purchased from counterparties that are rated lower than 'BBB' will be not be considered under the model. If a company has written a credit-default swap, the calculation of incremental capital adequacy

for credit risk will be treated in the same manner as a fixed-income security. In instances where there is a difference in the tenor of the short or long credit derivatives and the credit exposure being offset (e.g., the tenor of the default swap is shorter than the maturity of the bond or other short credit exposure), the company should provide Standard & Poor's with its net credit exposure in each year. This net credit exposure is referred to in the model as residual or segmented credit exposure. Standard & Poor's will calculate the default charge for residual credit exposure by applying the discounted transitional default factors with the appropriate standard deviation movement to the exposure in each year. For example, suppose a company purchases $10 million of a fixed-income asset that matures in 10 years, and also buys a credit-default swap on the same credit for $10 million that has a tenor of only seven years. Standard & Poor's would apply the methodology described above to derive the expected default values over the first seven years. The expected defaults in years eight, nine, and 10 would be calculated by multiplying the discounted transitional default factors applicable to each year by $10 million. If the company had purchased a credit default swap for only $8 million with a tenor of seven years, Standard & Poor's would also consider the expected default on an additional $2 million for the first seven years. Instead of using the cumulative 10-year default probability to calculate the capital charge, Standard & Poor's would apply the transitional cumulative default rates applicable to each year. (The cumulative default rates are calculated by adding the transitional defaults in each prior year. The discount factors for the transitional default rates will be based on the year of transition.) Standard & Poor's may not apply a salvage value in the case of two offsetting credit derivatives, depending on the contractual provisions that relate to salvage value. In the example portfolio, Standard & Poor's assumed that the company purchased a credit-default swap from an 'AA'-rated counterparty to offset its exposure on a corporate bond rated 'BBB+' and wrote a credit-default swap on a corporate security with a rating of 'A-' with the same tenor. The effect on incremental capital adequacy is detailed in Table 14. Table 14 Calculation of CR-1 Incremental Charge Relating to Credit Derivatives for Illustrative Benefit Responsive Guaranteed Investment Contract (GIC) Book REFERENCE CREDIT TENOR DESCRIPTION EXPOSURE TYPE* NAME RATING DATE YEARS NOTIONAL ($) DEFAULT FACTOR** (%) GROSS CAPITAL CHARGE ($) NET CAPITAL CHARGE*** ($) INCREMENTAL CAPITAL ADEQUACY FOR CREDIT DERIVATIVE THAT CREATES CREDIT EXPOSURE "Short" credit default swap A Sell Sears Roebuck A- 1/18/05 3.19 118,750,000 0.699 830,432 830,432 ADJUSTMENT TO INCREMENTAL CAPITAL ADEQUACY FOR PURCHASE OF CREDIT DERIVATIVE THAT MITIGATES EXPOSURE "Long" Credit Default Swap B Buy Ford Motor Credit BBB+ 1/13/05 3.18 118,750,000 2.193 Counterparty to Credit Default Swap B N/A Counterparty ABC AA 1/13/05 3.18 118,750,000 0.585 Product of default factors 0.013% Covariance multiplier 3 Adjusted applied factor**** 0.038% *"Buy" or "long" credit default swaps provide credit protection. "Sell" or "short" credit default swaps add credit exposure for the company. Analyzing Counterparty Credit Risk (CR-2) The CR-2 module quantifies an incremental capital allocation for the specific credit risk to which a company is exposed with respect to OTC-derivative counterparties. Unlike most other types of credit exposure, credit exposure to counterparties on OTC derivative transactions typically changes in magnitude as market variables change. In other words, as the mark-to-market value (i.e., unrealized gains and losses) of a company's derivative positions changes, the value of its credit exposures also change. Therefore, when the FPC model is applied to financial product subsidiaries of insurance companies that are in the primary business of writing OTC derivatives, Standard & Poor's uses the model to analyze a company's existing net derivative counterparty exposure, as well as its potential net credit exposure under alternative market scenarios. However, for companies that use OTC derivatives as hedge vehicles, which is typical of most insurance companies involved in the market, Standard & Poor's analysis is limited to the company's existing exposure to OTC-derivative counterparties. To determine capital adequacy relating to OTC derivative counterparties, Standard & Poor's applies the same methodology used in the CR-1 module to determine incremental capital adequacy based on expected losses. (Discounted cumulative credit-default factors and salvage values are applied to determine potential losses.) Based on its discussions with the company, Standard & Poor's may reflect in its modeling the various techniques and strategies the company uses to reduce or eliminate a portion of its credit exposure to counterparties on OTC-derivative transactions. These strategies include: counterparty netting, collateralization provisions, and break clauses. The calculation of capital

adequacy relating to the counterparty credit exposure for the illustrative GIC book is detailed in Table 15. Table 15 CR-2 Counterparty Credit Risk -- Calculation of Incremental Capital Charge for Illustrative Guaranteed Investment Contract (GIC) Book INSTRUMENT TYPE NOTIONAL ($) AVERAGE LIFE (YEARS) COUNTERPARTY CREDIT RATING NET COUNTERPARTY EXPOSURE ($) DEFAULT FACTORS (%) GROSS CR-2 CHARGES ($) SALVAGE CREDIT (%) NET CR-2 CHARGES ($) Net exposure to counterparty A 856,250,000 2.25 AAA 16,009,778 0.1111 17,784 45 9,781 Net exposure to counterparty B 718,750,000 4.46 AA 24,693,934 0.9112 225,009 45 123,755 Net exposure to counterparty C 1,150,000,000 12.85 A 18,103,537 2.5639 464,163 45 255,290 Total 388,826 CR-2 charge as % of GIC liabilities: 0.039% Operations Risk The capital adequacy for operations risk is determined by applying factors within a range multiplied by the notional or principal value of the company's funding liabilities and OTC derivatives, which is based on a subjective evaluation by the analyst. The calculation of capital adequacy relating to operations risk for the illustrative GIC book is detailed in Table 16 below. Table 16 OR-1 Operational Risk -- Incremental Capital Charge for Illustrative Guaranteed Investment Contract (GIC) Book DESCRIPTION NOTIONAL AMOUNT ($) APPLIED RISK FACTOR* (%) NET OR-1 CHARGE ($) Over-the-counter derivatives 2,725,000,000 0.010% 272,500 Benefit responsive GIC 1,000,000,000 0.300% 3,000,000 Total OR-1 charge: 3,272,500 Net incremental operational charge as % of GIC: 0.327% *Percentages based on $1 billion book value of GIC book. Summary Standard & Poor's FPC model is a mechanism by which companies that use sophisticated risk measurement and management techniques to establish a conservative risk profile can enjoy a lower capital allocation for a given rating than would be expected using Standard & Poor's traditional RBC model. Applying the FPC model to a company allows Standard & Poor's to analyze the benefit that the company's credit and financial market risk-hedging strategies create and to reflect this in the company's expected capital adequacy. In addition, credit risk is determined based on the actual tenors of a company's credit exposures, using Standard & Poor's default studies, rather than tenors based on industry means. The final two tables contrast Standard & Poor's expected total incremental capital adequacy relating to the illustrative GIC book, using the two different models: Table 17 Summary of FPC Model Application to Illustrative Benefit Responsive Guaranteed Investment Contract (GIC) Book INCREMENTAL CAPITAL CHARGES DESCRIPTION $ US % OF GICS R1 -- FINANCIAL MARKET RISK CHARGES MR-1 -- Interest rate delta risk charge 7,131,675 0.71 Interest rate gamma credit 0 0.00 MR-2 -- Interest rate gamma risk charge 5,866,164 0.59 MR-6 -- Liability option risk charge 3,842,672 0.38 Total 16,840,510 1.68 R2 -- CREDIT RISK CHARGES CR-1 -- Fixed income charge 2,180,313 0.22 CR-1 -- Credit derivative charge 830,432 0.08 CR-2 -- Counterparty credit charge 388,826 0.04 Total 3,399,571 0.34 R3 -- OPERATING RISK CHARGES O-1 -- Benefit responsive GICs 3,000,000 0.30 O-2 -- OTC interest rate derivatives 272,500 0.03 Total 3,272,500 0.33 Total allocated capital 23,512,582 2.35 Table 18 Application of Standard & Poor's Traditional Risk-Based Capital Model to the Illustrative Guaranteed Investment Contract (GIC) Book (C-1) ASSET CREDIT DEFAULT/LOSS RISK INCREMENTAL CAPITAL CHARGE DESCRIPTION ISSUER PAR/NOTIONAL AMOUNT ($) MATURITY RATING APPLIED FACTORS IMPLIED 'AA' MULTIPLIER $ AMOUNT % OF GICS Corporate security A National Rural Utilities 50,000,000 1/15/02 A+ 0.0042 N.A. 210,000 0.02 Corporate security B General Mills 118,750,000 10/8/03 A- 0.0042 N.A. 498,750 0.05 Corporate security C Aon Corp 118,750,000 7/1/04 A+ 0.0042 N.A. 498,750 0.05 Corporate security D Ford Motor Credit 118,750,000 1/13/05 BBB+ 0.0326 N.A. 3,871,250 0.39 Corporate security E Bank of America 118,750,000 10/15/06 A+ 0.0042 N.A. 498,750 0.05 Corporate security F Paine Webber Group 50,000,000 5/16/11 AA+ 0.0042 N.A. 210,000 0.02 Asset-backed securities -- security G The Money Store (home equity) 25,000,000 8/15/39 AAA 0.0042 N.A. 105,000 0.01 Mortgage-backed securities (MBS) -- security H Fannie Mae (CMO-PAC) 200,000,000 7/25/27 AAA Exempt N.A. 0 0 MBS -- security I Ginnie Mae (pass-through) 200,000,000 4/15/30 AAA Exempt N.A. 0 0 Over-the-counter derivatives counterparty exposure* 58,807,249 N.A. N.A. N.A. N.A. N.A. Total C-1 asset default/loss risk 5,892,500 0.59 (C-1) ASSET INTEREST RATE RISK (NEGATIVE CONVEXITY)** ABS -- security G The Money Store (home equity) 25,000,000 8/15/39 AAA 0.02000 N.A. 500,000 0.05 MBS -- security H Fannie Mae (CMO-PAC) 200,000,000 7/25/27 AAA 0.04500 N.A. 9,000,000 0.90 MBS -- security I Ginnie Mae (pass-through) 200,000,000 4/15/30 AAA 0.04500 N.A. 9,000,000 0.90 Total C-1 asset default/loss risk 18,500,000 1.85 (C-3) INTEREST RATE RISK GIC A

50,000,000 10/15/2002 AA 0.0200 1.5 1,500,000 3.00 GIC B 100,000,000 10/15/2003 AA 0.0200 1.5 3,000,000 3.00 GIC C 350,000,000 10/15/2004 AA 0.0200 1.5 10,500,000 3.00 GIC D 350,000,000 10/15/2005 AA 0.0200 1.5 10,500,000 3.00 GIC E 100,000,000 10/15/2006 AA 0.0200 1.5 3,000,000 3.00 GIC F 50,000,000 10/15/2008 AA 0.0200 1.5 1,500,000 3.00 Total C-3 interest rate risk 30,000,000 3.00 (C-4) BUSINESS RISK Total GIC notional 1,000,000,000 N.A. N.A. 0.0005 N.A. 500,000 0.05 Total C-4 business risk 500,000 0.05 Total capital adequacy requirement: 54,892,500 5.49 N.A.--Not applicable. Conclusion In the 1980s, Standard & Poor's rating process was largely an assessment of simple ratios, such as an insurer's income from premiums as a percentage of surplus capital (i.e., capital in excess of that needed to meet statutory reserving requirements), and the combined ratio (meaning payout and administrative costs as a percentage of premiums). These gave way in the 1990s to an approach that weighed such key variables as capital strength, earnings, and liquidity. Now, Standard & Poor's focus is shifting toward measuring an insurer's ability to make payments in the face of hypothetical changes in additional key risk factors.