

EXHIBIT 50



ATRIUM INSURANCE CORPORATION

ANALYSIS OF EXCESS-OF-LOSS REINSURANCE PROGRAM - 40% NET PREMIUM FOR UNITED GUARANTY RESIDENTIAL INSURANCE COMPANY BOOK YEAR 2006

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ATRIUM INSURANCE CORPORATION

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UNITED GUARANTY RESIDENTIAL INSURANCE COMPANY
BOOK YEAR 2006**

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ATRIUM INSURANCE CORPORATION

ANALYSIS OF EXCESS-OF-LOSS REINSURANCE PROGRAM - 40% NET PREMIUM FOR UNITED GUARANTY RESIDENTIAL INSURANCE COMPANY BOOK YEAR 2006

INTRODUCTION

Mortgage insurance protects an investor holding a mortgage loan against default by the mortgagor. Banks and mortgage lenders such as PHH Corporation (PHH) generally require that borrowers obtain mortgage insurance from third-party mortgage insurers on low down payment loans. These same banks and mortgage lenders reinsure mortgage insurance risk by operating insurance companies and assuming reinsurance business from a primary insurer. Under the proposed structure, Atrium Insurance Corporation (Atrium) will enter into an excess-of-loss reinsurance agreement with United Guaranty Residential Insurance Company (UGRIC). UGRIC issues mortgage insurance on mortgage loans originated or purchased by affiliate lenders of Atrium. Atrium is therefore agreeing to accept from UGRIC a portion of the risk of default in return for a share of the premium paid.

Milliman, Inc. (Milliman) has been retained by PHH to independently assess the likelihood that a particular mortgage reinsurance structure with UGRIC would meet two tests specified in the August 6, 1997 letter of the Department of Housing and Urban Development with respect to compliance of captive mortgage reinsurance arrangements with the Real Estate Settlement Procedures Act. Although Atrium is not a captive insurance company, its relationship to PHH as an insurance company subsidiary lends itself to be held to the same captive requirements set forth by the Department of Housing and Urban Development. It is on the basis of this structural similarity that Milliman develops its opinion.

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PERMISSIBILITY OF LENDER CAPTIVE REINSURANCE ARRANGEMENTS

On August 6, 1997, the Department of Housing and Urban Development (the "Department") issued a letter (the "HUD Letter") detailing the facts concerning captive reinsurance programs, relevant law, and how the Department will scrutinize lender captive reinsurance arrangements to determine whether any specific captive reinsurance program is permissible under the Real Estate Settlement Procedures Act ("RESPA"), specifically paragraph 8 (c) (2) of RESPA, 12 U.S.C. & 2607 (c) (2). For reasons set forth in the HUD Letter, the Department concluded that, so long as payments for reinsurance arrangements are solely "payments for goods or services actually performed," these arrangements are permissible under RESPA. We understand that you are familiar with the HUD Letter, and we have attached a copy of the letter to this report (Attachment A).

For reasons set forth in the HUD Letter, the Department's view of captive reinsurance is that the arrangements are permissible under RESPA if the payments to the reinsurer: (1) are for reinsurance services actually furnished or for services performed and (2) are bona fide compensation that does not exceed the value of such services. Where the Department scrutinizes a captive reinsurance arrangement, the letter states that the Department will apply the following two-part test to determine if the arrangement complies with RESPA:

- 1) Determine whether reinsurance is actually being provided in return for the compensation (Section II (B) (1) of the HUD Letter); and
- 2) Determine whether the compensation exceeds the value of the reinsurance (Section II (B) (2) of the HUD Letter).

To facilitate its analysis, the Department may use information obtained from the lender, the primary insurer, the captive reinsurer, or other sources, including data on the rate, magnitude, and timing of the default losses and mortgage insurance payments and any other information to undertake the analysis.

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Transfer of Risk

To determine that a real service or reinsurance is actually being performed by the reinsurer for which it may legally be compensated, (the first test, Section II (B) (1)), the Department states that there must be a real transfer of risk. The Department specifically indicates that the requirement for a real transfer of risk would be clearly satisfied by a quota share arrangement, under which the reinsurer is bound to participate pro rata in every claim. The Department also states that the requirement for a real transfer of risk could also be met by excess loss arrangements, if the band of the reinsurer's potential exposure is such that a reasonable business justification would motivate a decision to reinsure that band. Milliman, in the course of providing its opinion addresses this requirement and the results for this test are found in the Transfer of Risk section of the report.

As part of the first test described above, the Department details additional requirements that must be satisfied which are not addressed in Milliman's opinion as follows:

- There must be a legally binding contract for the reinsurance with terms and conditions conforming to industry standards; and
- The reinsurer must post capital and reserves satisfying the laws of the state in which it is chartered and the reinsurance contract between the primary insurer and the reinsurer must provide for the establishment of adequate reserves to ensure that, when a claim against the reinsurer is made, funds will exist to satisfy the claim.

Compensation Commensurate with the Risk

If the requirements in Section II (B) (1) for determining that reinsurance is actually being provided in return for the compensation are met, the Department will then determine whether the compensation paid for the reinsurance does not exceed the value of the reinsurance (Section II (B) (2)). The Department will evaluate whether the compensation is commensurate with the risk and, where warranted, administration costs. The specific points within the Department's evaluation requirements which are addressed in the Compensation Commensurate with the Risk section of Milliman's opinion include the following:

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- Compare, using relevant mathematical models, the risk borne by the captive reinsurer with payments provided by the primary insurer;
- Analyze the likelihood of losses occurring, the magnitude and volatility of possible losses, the amount of payments received, the timing of the payments and potential losses, current market discount rates, and other relevant factors; and
- Take into account the relative risk exposure of the primary lender (Milliman interprets this as referring to the primary insurer) and the captive reinsurer.

As part of the second test described above, the Department details additional requirements that may be evaluated which are not addressed in Milliman's opinion as follows:

- Consider the extent to which the lender of the firm controlling the captive reinsurer is shielded from potential losses by inadequate reserves and a corporate structure that segregates risk;
- Examine other financial transactions between the lender, primary insurer, and captive reinsurer to determine whether they are related to the reinsurance agreement; and
- Examine whether the ceding commission (if applicable) is commensurate with administrative costs assumed by the primary insurer.

Milliman's Analysis

It is our understanding that the tests, requirements and areas of evaluation are the Department's interpretation of various federal laws and regulations. Furthermore, the Department may consider items not specifically addressed in our tests in determining the permissibility of a particular captive reinsurance arrangement. We are not lawyers, and nothing in this report is intended to provide legal assurance that the requirements of these laws are met. We are also not accountants or auditors. We therefore do not offer opinions as to whether there is compliance with any applicable accounting or auditing standards. The tests addressed by Milliman involve financial and actuarial analysis and judgment. Our opinions are from those perspectives. Also, we are not opining on the capital adequacy or financial condition of Atrium.

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Specifically, in analyzing whether the transfer of risk test is satisfied, Milliman reviews whether there is a reasonable probability (at least 10%) of a loss (present value loss ratio in excess of 100%) to the reinsurer under the agreement. Milliman's analysis compares the reinsurers' present value loss ratio at a 10% probability level to a 110% loss ratio in order to assess whether this test is met. The 10% probability level is the outcome at which 10% of the simulated scenarios generate higher loss levels.

In analyzing whether the second pricing test is satisfied, Milliman reviews whether the premium ceded by UGRIC to Atrium is reasonable in relation to the reinsured risk. Milliman formulates its opinion by analyzing whether:

- The cumulative return on capital for the reinsurer is reasonable relative to returns on capital for primary mortgage insurers; and
- The average reinsurance underwriting results as measured by loss ratios are reasonable in relation to those of primary mortgage insurers.

This report presents the results of our analysis.

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DESCRIPTION OF THE REINSURANCE STRUCTURE

Under the excess layer reinsurance agreement for book year 2006 reviewed by Milliman, UGRIC will cede to Atrium 45% of the gross written premium to reinsure 10.0% of the original risk insured for a given book year of business. In return for underwriting, loss mitigation and other operational services, Atrium will provide UGRIC 11.1% of its premium as a ceding commission. The resulting net written premium percentage for Atrium will be 40.0%.

In return for the premium, Atrium under the defined excess-of-loss structure will reinsure a second loss position of 10.0% of the original book risk for each book year of business. The reinsured second loss position will begin after UGRIC pays the first loss position of 4.0% of the aggregate book risk for each book year of business.

For example, the following table illustrates Atrium's excess-of-loss reinsurance program terms based on assumed loan volume of approximately \$772 million and average mortgage insurance coverage of 28.97% for a hypothetical book year:

ATRIUM INSURANCE CORPORATION EXCESS-OF-LOSS REINSURANCE PROGRAM TERMS HYPOTHETICAL BOOK YEAR (\$000's)	
A) Loan Volume	\$771,907
B) Mortgage Insurance Coverage	28.97%
C) Gross Mortgage Insurance Risk (A x B)	223,621
D) First Loss Position - UGRIC (C x .04)	8,945
E) Second Loss Position - Atrium (C x .10)	22,362

Based on the above example, UGRIC covers approximately the first \$8.9 million of losses arising from the book year of loans. If losses exceed \$8.9 million, Atrium covers the next \$22.4 million of losses. Atrium's policy limit of \$22.4 million is exhausted once direct losses exceed \$31.3 million (i.e., \$8.9 million + \$22.4 million). All subsequent losses are then the responsibility of UGRIC.

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The term of the reinsurance agreement is ten years for each reinsured loan, and Atrium supports the reinsurance with capital and the ceded net written premium deposited into a trust. If trust funds are depleted such that Atrium's capital is below the required capital, Atrium can infuse additional funds in order to continue reinsuring business [Atrium must maintain total capital of at least 10% of reinsured risk (i.e., a risk to capital ratio of 10 to 1)]. However, Atrium has no liability beyond the funds available in the trust. The trust associated with this structure also supports previous books of business with UGRIC. The previous books of business will run-off under their existing terms. The capital in the trust may be used for all reinsurance structures, but must meet the 10% capital maintenance requirements referred to above for all book years.

Releases of capital from the trust to Atrium are allowed beginning January 1, 2005, but only if the assets (capital plus loss reserve and unearned premium reserve) in the trust exceed 102% of the sum of the following:

- The loss reserve and unearned premium reserve;
- For book years 2001 and prior, the contingency reserve; and
- For book years 2002 and subsequent, the greater of (i) 20% of the reinsured risk (i.e., a risk to capital ratio of 5 to 1), or (ii) the contingency reserve.

In our analysis, we have assumed that future annual administrative expenses paid with trust funds will be limited to \$100,000 (this reflects the maximum allowable calendar year expense amount). Additionally, we have assumed a 35% federal income tax will be paid using trust funds.

Our review is based on an assumption that Atrium assumes risks of a national lender with average loss experience and a risk profile similar to that provided to Milliman by PHH. Furthermore, we have assumed that annual insured loan volume will be consistent with the level reflected in our analysis which was also provided to Milliman by PHH. To the extent that Atrium's annual insured loan volume, trust account balance, risk profile or claims experience differs from our assumptions, the results of our analysis may not be appropriate.

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SUMMARY AND CONCLUSIONS

Based on representations by PHH as referred to below and our review of UGRIC's reinsurance program for book year 2006, as defined by among other things:

- A net ceded premium equal to 40.0% of the primary mortgage insurance premium (a 45% gross premium cede with a 11.1% ceding commission);
- A risk layer beginning at 4.0% of original risk insured;
- Annual insured loan volume with an underwriting risk profile generally similar to that represented to Milliman by PHH;
- A maximum reinsurance risk layer of 10.0% of the original risk insured; and
- Minimum capital requirements, expense and tax provisions and restrictions on the release of trust assets as outlined above,

Milliman is of the opinion that, from an actuarial and financial point of view, this reinsurance agreement:

(A) Has a reasonable probability of a loss to the reinsurer, which likely satisfies the transfer of risk test in the HUD Letter; and

(B) Has a net ceded premium which is reasonably related to the ceded risk, which likely satisfies the test in the HUD Letter that the compensation paid does not exceed the value of the reinsurance.

Milliman has also concluded that the reinsurance program provides a way of increasing the management of risk by providing the lender with an incentive for better loan originations.

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TRANSFER OF RISK ANALYSIS

To determine that a real service or reinsurance is actually being performed by the reinsurer for which it may legally be compensated, (the first test, Section II (B) (1)), the Department states that there must be a real transfer of risk. The Department specifically indicates that the requirement for a real transfer of risk would be clearly satisfied by a quota share arrangement, under which the reinsurer is bound to participate pro rata in every claim. The Department also states that the requirement for a real transfer of risk could also be met by excess loss arrangements, if the band of the reinsurer's potential exposure is such that a reasonable business justification would motivate a decision to reinsure that band.

Specifically, in analyzing whether the transfer of risk test is satisfied, Milliman reviews whether there is a reasonable probability (at least 10%) of a loss (present value loss ratio in excess of 100%) to the reinsurer under the agreement. Milliman's analysis compares the reinsurers' present value loss ratio at a 10% probability level to a 110% loss ratio in order to assess whether this test is met. The 10% probability level is the outcome at which 10% of the simulated scenarios generate higher loss levels.

Based on our analysis of the projected financial performance under the reinsurance contract, Milliman believes that the proposed reinsurance agreement likely satisfies the transfer of risk test in the HUD Letter in that there is a reasonable probability of a loss to the reinsurer.

In reaching this conclusion, we simulated the pro-forma financial statements for Atrium for all in-force book years (under the existing structures), as well as the 2006 book year (under the current structure) under various performance scenarios. We then compared the net present value of Atrium's cash flows for the 2006 book year and calculated a discounted loss ratio. The present value loss ratio is defined for the 2006 book year as the ratio of the present value of paid losses to the present value of premiums received, recognizing that both cash flows are cut-off if Atrium's capital is depleted.

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As a note, our transfer of risk test focuses on the premium and losses for the 2006 book year (under the proposed terms). However, we have also projected the performance for the previous book years due to the trust fund providing cross-collateralized security for the previous and 2006 book years. The performance of previous book years affects the ability of the trust to meet reinsured obligations for the 2006 book year and thus affects transfer of risk on the 2006 book year. Our projections reflect the loss rate correlation between consecutive book years.

Atrium incurs significant losses in many of the scenarios. Furthermore, approximately 10% of the scenarios generated a loss outcome at or above a 148% present value loss ratio. The table below illustrates the present value loss ratio for Atrium at various probability levels:

ATRIUM INSURANCE CORPORATION CUT-OFF LOSS RATIO AT VARIOUS PROBABILITY LEVELS 40% NET CEDED PREMIUM	
Probability Level	Atrium Present Value Cut-Off Loss Ratio
50.0%	23
60.0	44
70.0	71
78.1	100
80.0	107
85.0	130
90.0	148
95.0	162

The table above shows that Atrium experiences a loss (present value loss ratio in excess of 100%) in approximately 21.9% of our scenarios (i.e., $1.0 - 78.1\% = 21.9\%$). Furthermore, we believe that the 48% loss in excess of premiums at the 10% probability level demonstrates a reasonable probability of a loss to Atrium (i.e., 10% probability is 1.0 – 90% in the table above). Premiums and losses are adjusted to recognize that the contract is cut-off if Atrium's assets are depleted (i.e., no future premiums are ceded to Atrium and no further losses are paid by Atrium subsequent to cut-off). The premiums received through cut-off and reinsured losses satisfied by Atrium are discounted to their present value at the beginning of the book year based on a 4.00% assumed yield. The selection of 4.00% is based on recent 10-year treasury yields.

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To analyze the impact of potential cut-off, we also estimated the present value loss ratio at the 10% probability level assuming all losses are satisfied. Due to the strong cross-collateralization of Atrium's trust funds, the potential for cut-off has no impact on the 10% probability level loss ratio, which is 148% in both cases. The table below illustrates the present value loss ratio for Atrium at various probability levels in the scenario where there is no consideration of trust cut-off. (As a note, due to strong cross-collateralization, the results in the table below are identical to those in the cut-off table above.)

ATRIUM INSURANCE CORPORATION PRESENT VALUE LOSS RATIO WITHOUT CUT-OFF AT VARIOUS PROBABILITY LEVELS 40% NET CEDED PREMIUM	
Probability Level	Atrium Present Value Loss Ratio Without Cut-Off
50.0%	23%
60.0	44
70.0	71
78.1	100
80.0	107
85.0	130
90.0	148
95.0	162

As mentioned above, our analysis has conservatively focused on the performance of the 2006 book year and prior book years since the contract may be put into run-off after the 2006 book year (i.e., each individual loan in book year 2006 would continue to be reinsured for its 10-year term, but no subsequent book years would be reinsured). However, in a scenario with more book years and additional capital from contingency reserves, retained earnings, and potential capital contributions for subsequent book years, it generally becomes more likely that all (or a greater portion) of the reinsured losses will be satisfied under the stress scenario due to cross-collateralization. Cross-collateralization refers to the ability to utilize capital and retained earnings from profitable book years to satisfy losses of unprofitable book years. Therefore, a multiple book year scenario with book years written subsequent to the 2006 book of business would generally increase the likelihood of all or a greater portion of the reinsured losses being satisfied.

Milliman performed an additional test of the reinsurance transaction called the Expected Reinsurance Deficit (ERD) test. The test is described in greater detail by the American Academy of Actuaries

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(Academy) in Appendix 2 of the report dated August 2005 entitled "Risk Transfer in P&C Reinsurance". In short, the ERD is equal to the probability weighted average present value underwriting loss. In other words, the ERD is the expected value penetration of the reinsurer's present value loss ratio above 100%. The Academy cites an ERD value of 1% as analogous to our test that the reinsurer have a 10% present value loss ratio in excess of premiums (i.e., a 110% present value loss ratio) at the 10% probability level (i.e., $10\% \times 10\% = 1\%$).

Milliman calculates the specific reinsurance deficit for each trial in our simulation model as the amount by which the present value loss ratio is greater than 100%. For example, if the present value loss ratio for a particular trial is 115%, the reinsurance deficit is 15%. Alternatively, if the present value loss ratio for a particular trial is 60%, the reinsurance deficit is 0% (indicating no losses in excess of premiums). We then calculate the ERD as the expected value (probability weighted average) of all of the reinsurance deficits from our simulation. Furthermore, we calculate the ERD for both the cut-off scenario and the scenario where there is no cut-off of premiums and losses. For the cut-off scenario, the result of the ERD test is 9.43%, while in the scenario without cut-off, the result of the ERD test is 9.42%. Both of these estimated ERD values exceed the 1% threshold.

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COMPENSATION COMMENSURATE WITH THE RISK ANALYSIS

In analyzing whether the second pricing test is satisfied, Milliman reviews whether the premium ceded by UGRIC to Atrium is reasonable in relation to the reinsured risk. Milliman formulates its opinion by analyzing whether:

- The cumulative return on capital for the reinsurer is reasonable relative to returns on capital for primary mortgage insurers; and
- The average reinsurance underwriting results as measured by loss ratios are reasonable in relation to those of primary mortgage insurers.

Our analysis of the reasonableness of the price in relation to the reinsured risk also relies on our simulation of projected financial results for Atrium. However, the analysis focuses exclusively on the 2006 book year. We estimated the expected financial performance under the contract based on the average penetration of losses into the reinsured layer under the projected scenarios. The pro-forma financial statements for the expected performance are displayed on Exhibits 1 through 4. The exhibits contain the following:

- Exhibit 1 - The assumptions underlying the expected value scenario;
- Exhibit 2 - The pro-forma statutory balance sheet for the expected value scenario;
- Exhibit 3 - The pro-forma statutory statement of income for the expected value scenario; and
- Exhibit 4 - The pro-forma change in assets/cash flow statement for the expected value scenario.

We have concluded that the 40.0% net ceded premium is reasonable in relation to the ceded risk given the following:

- The internal rate of return (IRR) of the dividend stream of 17% and the cumulative return on capital of 7% over the term of the run-off are reasonable relative to returns on capital for primary mortgage insurers; and

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- The average reinsurance underwriting results as measured by loss ratios (on both a nominal and present value basis) are reasonable in relation to those of the primary company on a gross and net basis (i.e., before and after the reinsurance contract).

As a technical note, our analysis assumes that the gross mortgage insurance rates are reasonable relative to the risk of the primary insurer. However, we have not conducted an independent review of the primary rates.

Rate of Return Comparison

Atrium's returns were measured on two bases to compare the primary company's returns:

- The internal rate of return of dividends was measured; and
- The cumulative average return on capital was measured.

The internal rate of return of the expected dividend stream is 17% as displayed on Exhibit 2. The internal rate of return is the rate of return which equates the present value of the contributed capital to the flow of dividends. A final dividend at the end of the run-off (year 11) is calculated to liquidate the trust. This final dividend is equal to the remaining investable assets less the unearned premium and loss reserve.

The cumulative return on average capital of 7% is also displayed at the bottom of Exhibit 2. The return on capital for a calendar year is calculated by dividing net income by the average capital during the year (including the contingency reserve). A cumulative return on capital is then calculated over the term of the contract for one book year.

The 17% IRR and 7% return on capital can be compared to the return on capital for the active primary mortgage insurance industry. The returns on average capital for the last thirty-one years are displayed on Exhibit 5. The returns are calculated in a manner similar to the return on average capital calculation described above and are based on several industry sources.

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We believe that the projected returns under the reinsurance structure are reasonable given that they are consistent with those experienced by the industry.

Loss Ratio Comparison

The expected underwriting performance under the reinsurance contract was compared to that of the primary insurer as an additional test of the reasonableness of the ceded premium relative to the risk. The expected loss ratio was projected from our simulation of financial performance separately on a gross basis (i.e., the direct experience of the primary company) and on a ceded basis (i.e., the reinsurer's share of losses) over the term of the reinsurance contract for one book year. Expected net results were then calculated by subtraction. Present value loss ratios were also projected due to the later payout of reinsured losses.

The following table shows the results of our loss ratio analysis which is also outlined on Exhibit 6:

ATRIUM INSURANCE CORPORATION EXPECTED LOSS RATIO COMPARISON 45% GROSS PREMIUM WITH 11.1% CEDING COMMISSION – 40% NET		
	Nominal	Present Value¹
Gross (UGRIC)	54%	50%
Ceded (Atrium)	54	48
Net (UGRIC)	54	51

¹ Based on 4.00% yield.

We believe that the reinsurance premium is reasonable in relation to the reinsured risk since the projected expected loss ratios for Atrium are reasonable in relation to the loss ratios for the primary insurer. We believe that it is reasonable for the reinsurer's loss ratio to be below that of the primary company since the reinsurer is covering a more volatile excess layer. The reinsurance coverage provides the primary company with significant reinsurance protection attaching at profitable levels for the primary company and reducing volatility in the years with above average losses.

The table below demonstrates the reinsurer's more volatile performance by showing the loss ratios at various probability levels:

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ATRIUM INSURANCE CORPORATION LOSS RATIO COMPARISON AT PROBABILITY LEVELS 40% NET CEDED PREMIUM		
Probability Level	Net Primary Insurer	Ceded¹
50%	46%	23%
60	48	44
70	51	71
80	54	107
90	62	148
95	84	162

¹ Net of ceding commission.

The interpretation of the probability levels above is that they represent the probability that a single book year has a projected loss ratio at or below the indicated level. For example, the primary insurer's net loss ratio is 84% at the 95% probability level, while the reinsurer's loss ratio is 162%. There is a 95% chance that the reinsurer will have a loss ratio at or below 162%. Therefore, there is a 5% chance (i.e., 1.0 – 95%) that the reinsurer's loss ratio will be higher than 162%. As demonstrated above, the reinsurance provides significant protection at and above the 70% probability level which significantly reduces the volatility of the primary insurer's loss ratio. As a technical note, the table above assumes that all reinsured losses are satisfied through sufficient capital and cross-collateralization.

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QUALIFICATIONS AND LIMITATIONS

It is our understanding that the tests, requirements and areas of evaluation outlined in the HUD Letter are the Department's interpretation of various federal laws and regulations. Furthermore, the Department may consider items not specifically addressed in our tests in determining the permissibility of a particular reinsurance arrangement. We are not lawyers, and nothing in this report is intended to provide legal assurance that the requirements of these laws are met. We are also not accountants or auditors. We therefore do not offer opinions as to whether there is compliance with any applicable accounting or auditing standards. The tests addressed by Milliman involve financial and actuarial analysis and judgment. Our opinions are from those perspectives. Also, we are not opining on the capital adequacy or financial condition of Atrium.

In performing this analysis, we have relied on data and other information provided and represented to us by or on behalf of PHH. We have not audited, verified, or reviewed this data and other information for reasonableness and consistency. Such a review is beyond the scope of our assignment. If the underlying data or information is inaccurate or incomplete, our analysis may likewise be inaccurate or incomplete.

A simulation model illustrates the projected impact of actual results varying from projected results due to estimated variability inherent in the insurance process. This variability is referred to as process risk. Our simulation does not reflect the variation of actual results from projections due to parameter risk or specification risk. Parameter risk refers to the risk or uncertainty associated with the selection of the parameters underlying the applicable projection model. Specification risk refers to the risk or uncertainty surrounding the selection of the type of model used for the forecast.

Any study of future operating results involves estimates of future contingencies. While our analysis represents our best professional judgment, arrived at after careful analysis of the available information, it is important to note that a significant degree of variation from our projections is not only possible, but is in fact, probable. The sources of this variation are numerous: future national or regional economic

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conditions, mortgage prepayment speeds, and legislative changes affecting the program are examples. Furthermore, we have assumed average nationwide claim experience provided by PHH is appropriate. Additionally, we have augmented PHH's experience with industry experience in our analysis. To the extent that Atrium's insured loan volume, trust account balance, risk profile or claims experience differs significantly from our assumptions, the results of our analysis may not be appropriate. Also, we have assumed that UGRIC's current primary mortgage insurance rates are reasonable relative to their risk, although we have not conducted an independent review of primary rates.

In evaluating whether the ceded premium is reasonable relative to the ceded risk, Milliman determines whether the ceded premium is within a range of reasonable prices based on a simulation of projected financial results for the reinsurer. Milliman estimates the expected financial performance under the contract based on the average penetration of losses into the reinsured layer under the projected scenarios and compares the underwriting performance and returns to those of the primary insurers. As a neutral party providing our opinion, Milliman does not determine whether a particular deal is more advantageous for the ceding company or the reinsurer. Many factors affect a company's decision to enter into particular reinsurance contracts (e.g., risk appetite, capital, earnings volatility, and risk management considerations are several examples). It is Atrium's and UGRIC's ultimate decision as to whether or not they enter into any particular reinsurance agreement.

Generally, our analysis assumes books of business terminate at their natural expiration (i.e., either at cut-off or at the end of run-off) and does not take into account any possible commutation of insured books. However, Milliman has been made aware of the commutation of the 2001 and prior insured books of business between Atrium and UGRIC by Atrium, and has reflected only this commutation in our analysis. It is possible that any future commutations could materially impact Milliman's opinions with regard to the transfer of risk and the compensation commensurate with the risk. Furthermore, it is likely that any future commutation would affect the cross-collateralization between book years referenced in the Transfer of Risk Analysis section of this report.

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LIMITED DISTRIBUTION OF RESULTS

This report has been prepared for the use of and is only to be relied upon by the management of PHH. No portion of this report may be provided to any other party without Milliman's prior written consent. In the event such consent is provided, the report must be provided in its entirety. This report may not be filed with the SEC or other securities regulatory bodies. In the event Milliman's work is distributed to other parties due to statute or regulations, or by agreement of Milliman and PHH, Milliman requires that its work be distributed in its entirety, and that any recipient be advised to have their own actuary review the work. Milliman does not intend to benefit any third party recipient of its work product including the auditor, and does not intend to create any legal duty from Milliman to a third party even if Milliman consents to the release of its work product to such third party.

Milliman understands that PHH intends to distribute this report to its auditors in connection with the preparation of the financial statements of PHH. We will consent to such distribution as long as each work product is distributed in its entirety. The auditor may want to have its own actuary review the work. Milliman does not intend to benefit any third party recipient of its work product including the auditor, and does not intend to create any legal duty from Milliman to the auditor even if Milliman consents to the release of its work product. In the event that any audit reveals any error or inaccuracy in the data underlying this report, Milliman requests that the auditor notify Milliman as soon as possible.

Any reader of this report must possess a certain level of expertise in areas relevant to this analysis to appreciate the significance of the assumptions and the impact of these assumptions on the illustrated results. The reader should be advised by, among other experts, actuaries or other professionals competent in the area of actuarial projections of the type in this report, so as to properly interpret the projection results.

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If you should have any questions with regard to this analysis or would like to have us consider additional information, please do not hesitate to contact us. We appreciate the opportunity to work with PHH Corporation on this assignment.

Respectfully submitted,



Kenneth A. Bjurstrom
Principal and Financial Consultant



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CONFIDENTIAL
PHH-ROSENTHAL-CFPB-011498
CFPB-PHH-00140084

ATRIUM INSURANCE COMPANY
(United Guaranty Residential Insurance Company -- Ceding Company)

Assumed Reinsurance Structure

Premium		Gross Premium	45.0%	Net Premium
Ceding Commission	1st Year	11.1%		40.0%
	Renewal	11.1%		40.0%
Losses		Start (% of Original Risk)	4.0%	
		End (% of Original Risk)	14.0%	
Assumptions		Percentage of Layer Assumed	100.0%	
Claim Severity incl. loss adjustment (% of coverage)		100%		
Approximate Average Rate (Years 1 through 10)		0.910%		
Approximate Average Rate (Years 11 through Term)		0.200%		
Approximate Average Coverage		28.97%		
PSA		375%		
Loan Volume (\$000's)		771,907		
Average Loan (\$000's)		161		
Loan Counts		4,794		
Ultimate Loss Rate		7.10%		
Other Expenses 1st Year		100,000		
Other Expenses Subsequent Years		100,000		
Initial Capital Contribution		1,117,978		
Capital Contribution - Year 1		1,117,978		
Capital Contribution - Year 2		0		
Investment Yield		4.00%		
Statutory Capital Contribution (Also Minimum Statutory Surplus)		0		
Dividend Year		0		
Tax Rate		35%		
Premium Tax Rate		0.000%		
Statutory/Partner Risk To Capital Ratio - Cash		10 to 1		
Statutory/Partner Risk To Capital Ratio - Cash for Dividend		5 to 1		
Term of Contract		10 (Years of run-off for each Reinsured Loan)		

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ATRIUM INSURANCE COMPANY
(United Guaranty Residential Insurance Company – Ceding Company)
Pro Forma Statutory Balance Sheet
Single Book
(Dollars in 000's)

	Year-End 0	Year-End 1	Year-End 2	Year-End 3	Year-End 4	Year-End 5	Year-End 6	Year-End 7	Year-End 8	Year-End 9	Year-End 10	Year-End 11
Assets												
Investable Assets	1,118	2,997	4,686	4,646	4,626	5,412	5,992	5,014	4,065	3,421	2,860	1,251
Tax and Loss Bonds	0	0	0	0	0	0	0	0	0	0	0	0
Total Assets	1,118	2,997	4,686	4,646	4,626	5,412	5,992	5,014	4,065	3,421	2,860	1,251
Liabilities												
Unearned Premium Reserve	0	55	123	83	63	47	35	26	19	14	11	0
Loss Reserve	0	0	0	0	0	742	1,937	1,511	1,051	851	601	235
Contingency Reserve	0	636	2,073	3,236	4,123	4,517	3,430	2,581	1,970	1,467	1,123	992
Total Liabilities	0	692	2,196	3,319	4,186	5,306	5,402	4,088	3,040	2,332	1,735	1,227
Surplus (Before Capital Contribution)	1,118	1,187	2,565	2,759	1,543	407	590	925	1,025	1,089	1,124	1,132
Capital (Surplus + Cont. Rev.)		1,824	4,638	5,995	5,686	4,925	4,020	3,477	2,995	2,555	2,248	2,125
Reinsured Risk		22,360	22,360	22,360	22,360	22,360	21,618	19,681	18,170	17,119	16,268	0
Risk-to-Capital Ratio		12.3	4.8	3.7	3.9	4.5	5.4	5.7	6.1	6.7	7.2	0.0
Capital Constraints												
Required Risk-to-Capital Ratio		10	10	10	10	10	10	10	10	10	10	10
Required Risk Capital		2,236	2,236	2,236	2,236	2,236	2,162	1,968	1,817	1,712	1,627	0
Statutory Capital Requirement (Including Contingency Reserve)		636	2,073	3,236	4,123	4,517	3,430	2,581	1,970	1,467	1,123	992
Capital "Deficiency" (Excess)"		412	(2,402)	(2,759)	(1,543)	(407)	(590)	(925)	(1,025)	(1,089)	(1,124)	(1,132)
Dividend Required Risk to Capital		5	5	5	5	5	5	5	5	5	5	5
102% of the Dividend Required Risk Capital Requirement		4,618	4,686	4,646	4,626	5,366	6,422	5,583	4,798	4,375	3,943	239
102% of the Contingency Reserve Capital Requirement		705	2,240	3,385	4,269	5,412	6,510	4,170	3,101	2,379	1,770	1,251
Cash Capital Support / (Dividend) Surplus After Capital Contribution / Dividend	1,118	1,118	(75)	(1,432)	(1,103)	(301)	0	0	0	0	0	(1,108)
Cumulative 11 Year Capital Contributions		(1,782)			440	106	590	925	1,025	1,089	1,124	25
IRR Equity Flows	0 (1,118) 17%	1 (1,118)	2 75	3 1,432	4 1,103	5 301	6 0	7 0	8 0	9 0	10 0	11 2,125
Average Capital		2,030	3,753	4,563	4,563	4,593	4,322	3,749	3,236	2,775	2,402	1,632
Cumulative Average Capital		2,030	5,782	10,346	14,909	19,502	23,824	27,572	30,806	33,583	35,985	37,617
Net Income Before Contingency Reserve Contribution		706	1,697	1,431	1,103	362	(604)	(543)	(481)	(440)	(308)	(123)
Cumulative Net Income (before cont. reserve contrib.)		706	2,402	3,833	4,936	5,298	4,694	4,151	3,670	3,230	2,922	2,799
Cumulative Return on Capital		35%	42%	37%	33%	27%	20%	15%	12%	10%	8%	7%

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ATRIUM INSURANCE COMPANY
(United Guaranty Residential Insurance Company -- Ceding Company)
Pro Forma Statutory Income Statement
Single Book
(Dollars in 000's)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Total
Gross Written Premiums (Gross of Ceding Com.)	1,328	2,941	2,285	1,754	1,321	988	755	545	404	300	111	12,713
Ceded Written Premium (Gross of Ceding Com.)	0	0	0	0	0	0	0	0	0	0	0	0
Net Written Premium (Gross of Ceding Com.)	1,328	2,941	2,285	1,754	1,321	988	755	545	404	300	111	12,713
Earned Premiums (Gross of Ceding Com.)	1,273	2,874	2,325	1,774	1,337	1,000	744	552	409	304	122	12,713
Incurred Losses ¹	0	0	0	0	742	1,937	1,511	1,051	851	601	235	6,927
Ceding Commission	147	326	254	195	147	110	82	61	45	33	12	1,411
Premium Tax	0	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	100	100	100	100	100	100	100	100	100	100	100	1,100
Total Underwriting Expenses	247	426	354	295	247	210	182	161	145	133	112	2,511
Underwriting Income	1,025	2,447	1,971	1,479	349	(1,147)	(949)	(659)	(567)	(431)	(225)	3,274
Investment Income	66	170	226	215	207	217	212	178	147	123	102	1,864
Other Income (Expenses)	0	0	0	0	0	0	0	0	0	0	0	0
Pre-Tax Net Income	1,092	2,618	2,197	1,694	555	(930)	(737)	(481)	(440)	(308)	(123)	5,138
Pre-Tax NI After Contingency Reserve Contribution	455	1,181	1,035	807	160	158	142	100	63	35	8	4,145
Calculated Federal Income Tax ²	386	921	795	592	193	(326)	(258)	(169)	(154)	(108)	(44)	1,768
Cumulative Tax Credit Carry-back Available	0	386	1,307	1,687	1,358	765	193	0	0	0	0	0
Cumulative Tax Credit Carry-forward Available	0	0	0	0	0	0	0	65	234	388	496	0
Calendar Year Tax Credit Utilized	0	0	0	0	0	326	193	0	0	0	0	0
Federal Tax Incurred	386	921	796	592	193	(326)	(193)	0	0	0	0	2,358
Net Income	706	1,697	1,431	1,103	362	(604)	(543)	(481)	(440)	(308)	(123)	2,799
Cumulative Net Income ³	706	2,402	3,833	4,936	5,298	4,694	4,151	3,670	3,230	2,922	2,799	
Increase In Contingency Reserve	636	1,437	1,162	887	395	(1,087)	(879)	(582)	(503)	(343)	(131)	
Increase In Surplus (Excluding Capital Contribution)	69	260	259	216	(33)	484	335	100	63	35	8	1,807

¹ Based on the assumed ultimate loss rate displayed on the assumptions sheet.

² Without recognizing the tax deductibility of contingency reserve contributions. Recognizing the taxation of 20% of the increase in the unearned premium reserve.

³ This does not reflect a deduction for contributions to the contingency reserve.

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ATRIUM INSURANCE COMPANY
(United Guaranty Residential Insurance Company -- Ceding Company)
Pro Forma Projections (Statutory)
Cash Flows, Changes in Assets and Investment Income
Single Book
(Dollars in 000's)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
A Beginning Assets	1,118	2,997	4,686	4,646	4,626	5,412	5,992	5,014	4,055	3,421	2,860
B Net Written Premium	1,328	2,941	2,285	1,754	1,321	988	735	545	404	300	111
C Paid Losses	0	0	0	0	0	742	1,937	1,511	1,051	851	601
D Underwriting Expenses	247	426	354	295	247	210	182	161	145	133	112
E Net Underwriting Cash Flow (B - C - D)	1,081	2,515	1,932	1,459	1,075	36	(1,384)	(1,126)	(791)	(684)	(603)
Non-Investable Assets											
F Initial Tax and Loss Bond Asset (Beg. Contingency Rsv x Tax Rate)	0	0	0	0	0	0	0	0	0	0	0
G Tax and Loss Bonds Purchased in Year (Annual Contrib. to Cont. Rsv x Tax Rate)	0	0	0	0	0	0	0	0	0	0	0
H Other Income (Expenses)	0	0	0	0	0	0	0	0	0	0	0
I Weighted Average Investable Assets = A + 0.5 x (E + H) - F - (0.5 x G)	1,658	4,254	5,652	5,376	5,163	5,431	5,300	4,450	3,670	3,079	2,558
J Assumed Yield	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
K Investment Income (I x J)	66	170	226	215	207	217	212	178	147	123	102
L Federal Income Tax Incurred	386	921	766	592	193	(326)	(193)	0	0	0	0
M Cash Capital Contribution	1,118	(75)	(1,432)	(1,103)	(301)	0	0	0	0	0	(1,108)
N Ending Assets (A + E + H + K - L + M)	2,997	4,686	4,646	4,626	5,412	5,992	5,014	4,065	3,421	2,860	1,251

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Active Mortgage Insurance Industry Net Income as Percent of Average Capital

	Net Income % Average Capital	Source
1977	26.4%	UGRIC filing
1978	21.6%	UGRIC filing
1979	29.0%	UGRIC filing
1980	27.4%	UGRIC filing
1981	25.5%	UGRIC filing
1982	13.1%	UGRIC filing
1983	13.7%	UGRIC filing
1984	2.6%	S&P
1985	0.7%	S&P
1986	9.2%	S&P
1987	3.0%	S&P
1988	1.9%	Moody's
1989	13.8%	Moody's
1990	16.4%	Moody's
1991	17.5%	Moody's
1992	22.5%	Moody's
1993	16.9%	Moody's
1994	17.6%	Moody's
1995	21.3%	Moody's
1996	21.1%	Moody's
1997	22.2%	Moody's
1998	17.1%	Milliman ¹
1999	14.7%	Milliman ¹
2000	17.5%	Milliman ¹
2001	15.4%	Milliman ¹
2002	10.2%	Milliman ¹
2003	8.4%	Milliman ¹
2004	8.4%	Milliman ¹
2005	7.9%	Milliman ¹
2006	9.3%	Milliman ¹
2007	-0.2%	Milliman ¹
Average 1977 to 2007:	14.6%	
Average 1998 to 2007:	10.9%	
Average 2003 to 2007:	6.8%	

¹ Based on annual statements filed by the carriers within the industry.

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ATRIUM INSURANCE COMPANY
(United Guaranty Residential Insurance Company -- Ceding Company)
Expected Loss Ratio Comparison
45% Gross Premium with 11.1% Ceding Commission - 40% Net Premium

	Gross	Ceded ¹	Net
Premium - Nominal	\$28,250	\$12,713	\$15,538
Premium - Present Value ²	\$24,723	\$11,125	\$13,597
Expected Losses - Nominal	15,245	6,927	8,317
Expected Losses - Present Value ²	12,284	5,360	6,924
Expected Loss Ratio - Nominal	54%	54%	54%
Expected Loss Ratio - Present Value ²	50%	48%	51%

¹ Ceded premium is gross of ceding commission

² Based on a 4% assumed yield

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U. S. Department of Housing and Urban Development
Washington, D. C. 20410-8000

August 6, 1997

Attachment A

OFFICE OF THE ASSISTANT SECRETARY
FOR HOUSING-FEDERAL HOUSING COMMISSIONER

Mr. Sandor Samuels
General Counsel
Countrywide Funding Corporation
155 N. Lake Avenue
Pasadena, California 91109

Dear Mr. Samuels:

Last year the Department of Housing and Urban Development (the Department) sought from you information on the captive reinsurance program of Amerin Guaranty Corporation (Amerin) with Countrywide Home Loans (Countrywide) and its affiliated reinsurer, Charter Reinsurance (Charter). You then requested that the Department clarify the applicability of Section 8 of the Real Estate Settlement Procedures Act (RESPA) to captive reinsurance programs. For the reasons set forth below, we have concluded that, so long as payments for reinsurance under captive reinsurance arrangements are solely "payment for goods or facilities actually furnished or for services actually performed," these arrangements are permissible under RESPA. See paragraph 8(c)(2) of RESPA, 12 U.S.C. § 2607(c)(2). The following details the facts concerning captive reinsurance programs as we understand them, relevant law, and how the Department will scrutinize these arrangements to determine whether any specific captive reinsurance program is permissible under RESPA.

I. BACKGROUND

A typical captive reinsurance arrangement involves a mortgage lender acting in concert with a fully licensed reinsurance affiliate of the mortgage lender and an unaffiliated primary mortgage insurer. The sole purpose of the reinsurance affiliate is to reinsure loans which the affiliated mortgage lender originates and which the unaffiliated, primary mortgage insurance company insures. The primary mortgage insurer and the reinsurer enter into a contract under which the primary insurer agrees to pay the reinsurer an agreed upon portion of the mortgage insurance premiums for loans originated by the lender and insured by the primary insurer. The lender, therefore, has a financial interest in having the primary insurer in the captive reinsurance program selected to provide the mortgage insurance.

Premiums paid for the reinsurance may be net of an agreed upon "ceding commission," which represents the reinsurer's share of the costs of administering the book of insured business.

Under the contract between the primary insurer and the reinsurer, the reinsurer posts capital and reserves satisfying the laws of the state in which it is chartered and may also establish an additional security fund to ensure that, when a claim against the reinsurer is made, funds will exist to satisfy the claim. In exchange for a portion of mortgage insurance premiums (minus a ceding commission, if applicable) to be paid by the primary insurer, the reinsurer obligates itself to reimburse the primary insurer for an agreed portion of claims that may require payment under the contract. Under different reinsurance arrangements, the reinsurance obligations generally take one of two forms. The first is an "excess loss" arrangement, under which the primary insurer pays, and is solely responsible for, claims arising out of a given book of business up to a predetermined amount, after which the reinsurer is obligated to reimburse the primary insurer's claims up to another predetermined amount. Thereafter, the primary insurer is solely responsible for claims in excess of the reinsurer's tier of losses on a given book. A second type of contract is the "quota share" contract, under which the reinsurer would bear a portion of all insured losses.

Under captive arrangements of which the Department is aware, some degree of disclosure is provided to the consumer about the arrangement and some opportunity is accorded to the consumer to choose whether or not to have the loan insured through a captive reinsurance program.

II. LEGAL ANALYSIS

Subsection 8(a) of RESPA provides that "[n]o person shall give and no person shall accept any fee, kickback, or thing of value pursuant to any agreement or understanding, oral or otherwise, that business incident to or a part of a real estate settlement service involving a federally related mortgage loan shall be referred to any person." 12 U.S.C. § 2607(a). "Thing of value" is further described in the Department's regulations as including "without limitation, monies, things, discounts, salaries, commissions, fees, duplicate payments of a charge, stock, dividends, distributions of partnership profits, franchise royalties, credits representing monies that may be paid at a

future date, the opportunity to participate in a money-making program...." 24 C.F.R. § 3500.14(d). In addition, subsection 8(b) prohibits the giving or receipt of any portion, split or percentage of any charge made or received for the rendering of a real estate settlement service "other than for services actually performed." 12 U.S.C. § 2607(b). These prohibitions against paying for referrals and against splitting fees are very broad and cover a variety of activities.

Subsection 8(c) of RESPA sets forth various exemptions from these prohibitions. It provides, in relevant part, that nothing in section 8 shall be construed as prohibiting "(2) the payment to any person of a bona fide salary or compensation or other payment for goods or facilities actually furnished or for services actually performed." 12 U.S.C. § 2607(c)(2).

The Department's view of captive reinsurance is that the arrangements are permissible under RESPA if the payments to the reinsurer: (1) are for reinsurance services "actually furnished or for services performed" and (2) are bona fide compensation that does not exceed the value of such services.

The rationale behind this two-step analysis is that in instances in which a lender selects the mortgage insurer, including under a captive reinsurance arrangement, the lender's actions would constitute a referral of loans to a mortgage insurer, by influencing the borrower's selection of his or her mortgage insurer. See 24 C.F.R. § 3500.14(f) (definition of "referral"). If the lender or its reinsurance affiliate is merely given a thing of value by the primary insurer in return for this referral, in monies or the opportunity to participate in a money-making program, then section 8 would be violated; the payment would be regarded as payment for the referral of business or a split of fees for settlement services. If, however, the lender's reinsurance affiliate actually performs reinsurance services and compensation from the primary insurer is bona fide and does not exceed the value of the reinsurance, then such payments would be permissible under subsection 8(c). Conversely, any captive reinsurance arrangement in which reinsurance services are not actually performed or in which the payments to the reinsurer are not bona fide and exceed the value of the reinsurance would violate section 8 as an impermissible referral fee.

A. Analysis of Specific Captive Reinsurance Arrangements

The Department will analyze captive reinsurance arrangements to determine if the arrangements comply with RESPA. Factors which may cause the Department to give particular scrutiny to an arrangement and cause it to apply the test set forth in Part II(B) of this analysis include, but are not limited to, the following:

1. The amount charged directly or indirectly to the consumer for mortgage insurance in a captive program is greater than the amount charged to the consumer for mortgage insurance not involving reinsurance for a similar risk.
2. The costs (premiums minus a ceding commission, if applicable) paid to the captive reinsurer are greater than the cost for comparable non-captive reinsurance available in the market.
3. The lender restricts its mortgage insurance business in whole or to a large extent to a primary mortgage insurer that has a reinsurance agreement with the lender's captive reinsurer.
4. Any major secondary market institution refuses to purchase mortgages insured under a particular captive reinsurance agreement or places special conditions on such purchases.
5. Any credit rating agency reduces the rating of the primary mortgage insurer in whole or in part because of agreements with captive reinsurers.
6. Any State regulatory body questions the adequacy of the reserves maintained by the primary mortgage insurer or the captive reinsurer.
7. The primary insurer's agreement to reinsure is conditioned on the affiliated lender's agreement to refer all of or a predetermined volume of its mortgage insurance business to the primary insurer, or the terms of the agreement (such as the percentage of the premium per loan reinsured that is paid to the reinsurer by the primary insurer) fluctuate depending on the volume of the primary insurance business referred by the lender to the primary insurer. The presence of either of these conditions makes it more likely that at least a portion of the compensation paid to the reinsurer is for the referral of mortgage insurance business.

8. Adequate consumer disclosure is not provided. The Department believes that consumers would be well served by a meaningful disclosure¹ and a meaningful choice² for consumers about having their loans included in a captive reinsurance program. A demonstrated willingness to provide such a disclosure may indicate that the arrangement is designed to provide real reinsurance.

The Department does not consider any of these eight factors to be determinative of whether an arrangement merits scrutiny by the Department, nor does it regard the absence of any of these factors to be determinative that further scrutiny is not merited. In addition, as noted in Part II(B), the Department may consider these eight factors in applying the test in Part II(B), to the extent applicable.

B. Test for Whether a Captive Reinsurance Arrangement Violates RESPA

Where the Department scrutinizes a captive reinsurance arrangement, it will apply a two-part test for determining whether the arrangement violates RESPA. The Department will first determine whether the reinsurance arrangement meets three requirements that establish that reinsurance is actually being provided in return for the compensation. If one or more of the requirements is not met, the inquiry will end, and the arrangement will be regarded as an impermissible captive reinsurance arrangement under RESPA. If all of the requirements are met, the Department will determine whether the compensation exceeds the value of the reinsurance. To facilitate its analysis, the Department may use information obtained from the lender, the primary insurer, the captive reinsurer, or other sources, including data on the rate, magnitude, and timing of default losses and mortgage insurance payments and any other

¹ A meaningful disclosure would reveal that the captive reinsurance arrangement exists, that the lender stands to gain financially under the arrangement, and that the consumer may choose not to have his or her insurance provided by an insurer in such an arrangement.

² A meaningful choice whether to participate would provide the consumer an easy, non-burdensome opportunity to opt out by, for example, indicating a preference one way or the other on a form.

information necessary to undertake the analysis and may exercise its subpoena authority pursuant to 24 C.F.R. part 3800 to obtain such information.

1. Determining that Reinsurance is Actually Being Provided in Return for the Compensation

To determine that a real service--reinsurance--is performed by the reinsurer for which it may legally be compensated, the following requirements must be satisfied:

a. There must be a legally binding contract for reinsurance with terms and conditions conforming to industry standards.

b. The reinsurer must post capital and reserves satisfying the laws of the state in which it is chartered and the reinsurance contract between the primary insurer and the reinsurer must provide for the establishment of adequate reserves to ensure that, when a claim against the reinsurer is made, funds will exist to satisfy the claim. Unless the reinsurer is adequately capitalized and adequate reserves (which may include letters of credit or guarantee arrangements) and funds are available to pay claims, real services are not being provided.

c. There must be a real transfer of risk. The reinsurance transaction cannot be a sham under which premium payments (minus a ceding commission, if applicable) are given to the reinsurer even though there is no reasonable expectation that the reinsurer will ever have to pay claims. This requirement for a real transfer of risk would clearly be satisfied by a quota share arrangement, under which the reinsurer is bound to participate pro rata in every claim. The requirement could also be met by excess loss arrangements, if the band of the reinsurer's potential exposure is such that a reasonable business justification would motivate a decision to reinsure that band. Unless there is a real transfer of risk, no real reinsurance services are actually being provided. In either case, the premiums paid (minus a ceding commission, if applicable) must be commensurate to the risk, as discussed in Part II(B)(2).

In evaluating these requirements, the Department may also consider the factors in Part II(A), to the extent relevant. If any of the requirements in this Part II(B)(1) is not met, the arrangement will be regarded as an impermissible reinsurance arrangement under RESPA. If any of the requirements is not met, the "service" being compensated would appear to be the lender's referral of business to the mortgage insurer, which RESPA prohibits.

2. Determining that the Compensation Paid for Reinsurance Does Not Exceed the Value of the Reinsurance

If the requirements in Part II(B)(1) for determining that reinsurance is actually being provided in return for the compensation are met, the Department will then determine whether the compensation paid for reinsurance does not exceed the value of the reinsurance. The Department will evaluate whether the compensation is commensurate with the risk and, where warranted, administrative costs. The Department's evaluation of this requirement may:

- Compare, using relevant mathematical models, the risk borne by the captive reinsurer with the payments provided by the primary insurer.

- Analyze the likelihood of losses occurring, the magnitude and volatility of possible losses, the amount of payments received, the timing of the payments and potential losses, current market discount rates, and other relevant factors.

- Take into account the relative risk exposure of the primary lender and the captive reinsurer.

- Consider the extent to which the lender or the firm controlling the captive reinsurer is shielded from potential losses by inadequate reserves and a corporate structure that segregates risks.

- Examine other financial transactions between the lender, primary insurer, and captive reinsurer to determine whether they are related to the reinsurance agreement.

- Examine whether the ceding commission is commensurate with the administrative costs assumed by the primary insurer.

In making this evaluation, the Department may also consider the factors in Part II(A), to the extent relevant. If the Department concludes that the compensation paid for the reinsurance exceeds the value of the reinsurance pursuant to the analysis in this Part II(B)(2), the arrangement will be regarded as an impermissible reinsurance arrangement under RESPA and the payments exceeding the value of the reinsurance will be considered a referral fee or unearned fee.

III. CONCLUSION

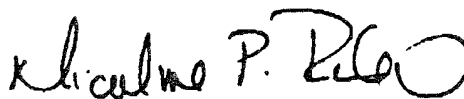
In setting forth this analysis, the Department notes the trend in the mortgage market toward increased diversification of risk. The Department welcomes such trends to the extent that

such arrangements increase the availability of mortgage credit. Where RESPA would not preclude such arrangements, the Department would generally support them.

The Department believes the system of mortgage insurance and reinsurance is not necessarily comparable to other types of settlement services. Thus, the Department could analyze other settlement service programs differently, depending on the facts of the particular program.

I trust that this guidance will assist you to conduct your business in accordance with RESPA.

Sincerely,



Nicolas P. Retsinas
Assistant Secretary for
Housing-Federal Housing
Commissioner

cc: Mr. Randolph C. Sailer II
Senior Vice President and General Counsel
Amerin Guaranty Corporation
200 East Randolph Drive, 49th Floor
Chicago, IL 60601-7125

EXHIBIT 51

**Statement of Principles Regarding
Property and Casualty
Insurance Ratemaking**

(Adopted by the Board of Directors of the CAS May 1988)

The purpose of this Statement is to identify and describe principles applicable to the determination and review of property and casualty insurance rates. The principles in this Statement are limited to that portion of the ratemaking process involving the estimation of costs associated with the transfer of risk. This Statement consists of four parts:

I. Definitions

II. Principles

III. Considerations

IV. Conclusion

The principles contained in this Statement provide the foundation for the development of actuarial procedures and standards of practice. It is important that proper actuarial procedures be employed to derive rates that protect the insurance system's financial soundness and promote equity and availability for insurance consumers.

Although this Statement addresses property and casualty insurance ratemaking, the principles contained in this Statement apply to other risk transfer mechanisms.

I. Definitions

Ratemaking is the process of establishing rates used in insurance or other risk transfer mechanisms. This process involves a number of considerations including marketing goals, competition and legal restrictions to the extent they affect the estimation of future costs associated with the transfer of risk. This Statement is limited to principles applicable to the estimation of these costs. Such costs include claims, claim settlement expenses, operational and administrative expenses, and the cost of capital. Summary descriptions of these costs are as follows:

- Incurred losses are the cost of claims insured.
- Allocated loss adjustment expenses are claims settlement costs directly assignable to specific claims.
- Unallocated loss adjustment expenses are all costs associated with the claim settlement function not directly assignable to specific claims.
- Commission and brokerage expenses are compensation to agents and brokers.
- Other acquisition expenses are all costs, except commission and brokerage, associated with the acquisition of business.
- Taxes, licenses and fees are all taxes and miscellaneous fees except federal income taxes.
- Policyholder dividends are a non-guaranteed return of premium charged to operations as an expense.
- General administrative expenses are all other operational and administrative costs.
- The underwriting profit and contingency provisions are the amounts that, when considered with net investment and other income, provide an appropriate total after-tax return.

40 II. Principles

41 Ratemaking is prospective because the property and casualty insurance rate must be
42 developed prior to the transfer of risk.

43 Principle 1: A rate is an estimate of the expected value of future costs.

44 Ratemaking should provide for all costs so that the insurance system is financially sound.

45 Principle 2: A rate provides for all costs associated with the transfer of risk.

46 Ratemaking should provide for the costs of an individual risk transfer so that equity among
47 insureds is maintained. When the experience of an individual risk does not provide a credible
48 basis for estimating these costs, it is appropriate to consider the aggregate experience of similar
49 risks. A rate estimated from such experience is an estimate of the costs of the risk transfer for
50 each individual in the class.

51 Principle 3: A rate provides for the costs associated with an individual risk transfer.

52 Ratemaking produces cost estimates that are actuarially sound if the estimation is based on
53 Principles 1, 2, and 3. Such rates comply with four criteria commonly used by actuaries:
54 reasonable, not excessive, not inadequate, and not unfairly discriminatory.

55 Principle 4: A rate is reasonable and not excessive, inadequate, or unfairly discriminatory
56 if it is an actuarially sound estimate of the expected value of all future costs associated with an
57 individual risk transfer.

58 III. Considerations

59 A number of ratemaking methodologies have been established by precedent or common
60 usage within the actuarial profession. Since it is desirable to encourage experimentation and
61 innovation in ratemaking, the actuary need not be completely bound by these precedents.
62 Regardless of the ratemaking methodology utilized, the material assumptions should be
63 documented and available for disclosure. While no ratemaking methodology is appropriate in all
64 cases, a number of considerations commonly apply. Some of these considerations are listed
65 below with summary descriptions. These considerations are intended to provide a foundation
66 for the development of actuarial procedures and standards of practice.

67 **Exposure Unit**

68 The determination of an appropriate exposure unit or premium basis is essential. It is desirable
69 that the exposure unit vary with the hazard and be practical and verifiable.

70 **Data**

71 Historical premium, exposure, loss and expense experience is usually the starting point of
72 ratemaking. This experience is relevant if it provides a basis for developing a reasonable
73 indication of the future. Other relevant data may supplement historical experience. These other
74 data may be external to the company or to the insurance industry and may indicate the general
75 direction of trends in insurance claim costs, claim frequencies, expenses and premiums.

76 **Organization of Data**

77 There are several acceptable methods of organizing data including calendar year, accident year,
78 report year and policy year. Each presents certain advantages and disadvantages; but, if
79 handled properly, each may be used to produce rates. Data availability, clarity, simplicity, and
80 the nature of the insurance coverage affect the choice.

81 **Homogeneity**

82 Ratemaking accuracy often is improved by subdividing experience into groups exhibiting similar
83 characteristics. For a heterogeneous product, consideration should be given to
84 segregating the experience into more homogeneous groupings. Additionally, subdividing or
85 combining the data so as to minimize the distorting effects of operational or procedural changes
86 should be fully explored.

87 **Credibility**

88 Credibility is a measure of the predictive value that the actuary attaches to a particular
89 body of data. Credibility is increased by making groupings more homogeneous or by increasing
90 the size of the group analyzed. A group should be large enough to be statistically reliable.
91 Obtaining homogeneous groupings requires refinement and partitioning of the data. There is a
92 point at which partitioning divides data into groups too small to provide credible patterns. Each
93 situation requires balancing homogeneity and the volume of data.

94 **Loss Development**

95 When incurred losses and loss adjustment expenses are estimated, the development of
96 each should be considered. The determination of the expected loss development is subject to the
97 principles set forth in the Casualty Actuarial Society's Statement of Principles Regarding
98 Property and Casualty Loss and Loss Adjustment Expense Reserves.

99 **Trends**

100 Consideration should be given to past and prospective changes in claim costs, claim
101 frequencies, exposures, expenses and premiums.

102 **Catastrophes**

103 Consideration should be given to the impact of catastrophes on the experience and procedures
104 should be developed to include an allowance for the catastrophe exposure in the rate.

105 **Policy Provisions**

106 Consideration should be given to the effect of salvage and subrogation, coinsurance,
107 coverage limits, deductibles, coordination of benefits, second injury fund recoveries and other
108 policy provisions.

109 **Mix of Business**

110 Consideration should be given to distributional changes in deductibles, coverage
111 limitations or type of risks that may affect the frequency or severity of claims.

112 **Reinsurance**

113 Consideration should be given to the effect of reinsurance arrangements.

114 **Operational Changes**

115 Consideration should be given to operational changes such as changes in the underwriting
116 process, claim handling, case reserving and marketing practices that affect the continuity of the
117 experience.

118 **Other Influences**

119 The impact of external influences on the expected future experience should be considered.
120 Considerations include the judicial environment, regulatory and legislative changes, guaranty
121 funds, economic variable, and residual market mechanisms including subsidies of residual

122 market rate deficiencies.

123 **Classification Plans**

124 A properly defined classification plan enables the development of actuarially sound rates.

125 **Individual Risk Rating**

126 When an individual risk's experience is sufficiently credible, the premium for that risk
127 should be modified to reflect the individual experience. Consideration should be given to the
128 impact of individual risk rating plans on the overall experience.

129 **Risk**

130 The rate should include a charge for the risk of random variation from the expected costs. This
131 risk charge should be reflected in the determination of the appropriate total return consistent with
132 the cost of capital and, therefore, influences the underwriting profit provision. The rate should also
133 include a charge for any systematic variation of the estimated costs from the expected costs. This
134 charge should be reflected in the determination of the contingency provision.

135 **Investment and Other Income**

136 The contribution of net investment and other income should be considered.

137 **Actuarial Judgment**

138 Informed actuarial judgments can be used effectively in ratemaking. Such judgments may
139 be applied throughout the ratemaking process and should be documented and available for
140 disclosure.

141 **IV. Conclusion**

142 The actuary, by applying the ratemaking principles in this Statement, will derive an estimation
143 of the future costs associated with the transfer of risk. Other business considerations are also a part
144 of ratemaking. By interacting with professionals from various fields including underwriting,
145 marketing, law, claims, and finance, the actuary has a key role in the ratemaking process.

EXHIBIT 52



ACTUARIAL STANDARDS BOARD

Actuarial Standard of Practice No. 30

Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking

**Developed by the
Task Force on Rate of Return of the
Casualty Committee of the
Actuarial Standards Board**

**Adopted by the
Actuarial Standards Board
July 1997**

Updated for Deviation Language Effective May 1, 2011

(Doc. No. 148)

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August 1997

TO: Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking

FROM: Actuarial Standards Board (ASB)

SUBJ: Actuarial Standard of Practice No. 30

This booklet contains the final version of Actuarial Standard of Practice (ASOP) No. 30, *Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking*.

First and Second Exposure Drafts

The first draft of this standard was exposed for review in October 1994, with a comment deadline of March 15, 1995. Thirty-one comment letters were received. The second draft of this standard was exposed for review in August 1996, with a comment deadline of December 2, 1996. Ten comment letters were received on the second exposure draft. (For a copy of either exposure draft, please contact the ASB office.) The Task Force on Rate of Return of the ASB's Casualty Committee reviewed and carefully considered all comments received on both exposure drafts. As was the case after the first exposure, the task force revised the second exposure draft after participating in many conference calls and listening to comments made during question-and-answer sessions held at various Casualty Actuarial Society (CAS) meetings.

Substantive Issues

Following the first exposure draft, the task force received a number of comment letters regarding the discussion of rates versus prices. Although several changes were made in the second exposure draft to more clearly indicate that the proposed standard intended only to address the evaluation of costs (i.e., rates), some of the commentators' letters on the second exposure draft still expressed confusion on this point. In response, the task force further revised several sections to make clear that the standard does not address considerations such as marketing goals, competition, and legal restrictions that may affect price.

In addition to the "rates versus prices" issue, several commentators questioned whether the cost of capital is truly equivalent for stock, mutual, and other insurance organizations. After extensive discussion, the task force changed the language of the standard to focus the practitioner on assessing the cost of capital as an opportunity cost and to recognize that all risk transfers have an opportunity cost. The task force also combined section 3.8 with section 3.2 to indicate that the cost of capital may differ for various capital providers due to their differing risk characteristics,

and that such differences play a role in assessing the cost of capital for a specific capital provider. (For a detailed discussion of the comments and the task force's responses to such, please see appendix 2 of this standard.)

The task force is grateful to the many individuals who contributed written comments or participated in the numerous discussions of the proposed standard at CAS meetings. The task force believes that the final standard benefitted significantly from this professional debate.

The ASB voted in July 1997 to adopt the final standard.

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David Appel	Claus S. Metzner
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ACTUARIAL STANDARD OF PRACTICE NO. 30

TREATMENT OF PROFIT AND CONTINGENCY PROVISIONS AND THE COST OF CAPITAL IN PROPERTY/CASUALTY INSURANCE RATEMAKING

STANDARD OF PRACTICE

Section 1. Purpose, Scope, Cross References, and Effective Date

- 1.1 Purpose—According to the *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* (hereafter the *Statement of Principles*) of the Casualty Actuarial Society, insurance rates should provide for the cost of capital through underwriting profit and contingency provisions. This standard of practice provides guidance to actuaries in estimating the cost of capital and evaluating underwriting profit and contingency provisions.
- 1.2 Scope—This standard of practice applies to all property/casualty insurance coverages. This standard also applies to property/casualty risk financing systems, such as self-insurance, that provide similar coverages. References in the standard to *risk transfer* should be interpreted to include risk financing systems that provide for risk retention in lieu of risk transfer. Further, as is true of the *Statement of Principles*, this standard is limited to defining a *rate* as the estimation of future *costs* and does not address other considerations that may affect a *price*, such as marketing goals, competition, and legal restrictions.

If the actuary departs from the guidance set forth in this standard in order to comply with applicable law (statutes, regulations, and other legally binding authority), or for any other reason the actuary deems appropriate, the actuary should refer to section 4.
- 1.3 Cross References—When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should consider the guidance in this standard to the extent it is applicable and appropriate.
- 1.4 Effective Date—This standard will be effective with respect to work performed after December 1, 1997.

Section 2. Definitions

The definitions below are defined for use in this actuarial standard of practice.

- 2.1 Capital—The funds intended to assure payment of obligations from insurance contracts, over and above those funds backing the liabilities.
- 2.2 Contingency Provision—A provision for the expected differences, if any, between the estimated costs and the average actual costs, that cannot be eliminated by changes in other components of the ratemaking process.
- 2.3 Cost of Capital—The rate of return that capital could be expected to earn in alternative investments of equivalent risk; also known as *opportunity cost*.
- 2.4 Insurance Cash Flows—Funds from premiums and miscellaneous (non-investment) income from insurance operations, and payments for losses, expenses, and policyholder dividends. Associated income taxes are recognized when the analysis is on a post-tax basis.
- 2.5 Insurance Risk—The extent to which the level or timing of actual insurance cash flows is likely to differ from expected insurance cash flows.
- 2.6 Investment Income—Proceeds (other than the return of principal) derived from the investment of assets, minus investment expenses. Associated income taxes are recognized when the analysis is on a post-tax basis.
- 2.7 Investment Income from Insurance Operations—The income associated with the investment of insurance cash flows. (This is sometimes referred to as *investment income on policyholder-supplied funds*.)
- 2.8 Investment Risk—The extent to which the level or timing of actual investment proceeds is likely to differ from what is expected.
- 2.9 Leverage—A measure of the relative amount of risk to which capital is exposed, typically expressed as the ratio of an exposure measure (such as premium or liabilities) to the capital amount.
- 2.10 Operating Profit—The sum of underwriting profit, miscellaneous (non-investment) income from insurance operations, and investment income from insurance operations. Associated income taxes are recognized when the analysis is on a post-tax basis.
- 2.11 Rate—An estimate of the expected value of future costs.
- 2.12 Total Return—The sum of operating profit and investment income on capital, usually after income taxes, often expressed in percentage terms.
- 2.13 Underwriting Expenses—All expenses except losses, loss adjustment expenses, investment expenses, policyholder dividends, and income taxes.

- 2.14 Underwriting Profit—Premiums less losses, loss adjustment expenses, underwriting expenses, and policyholder dividends.
- 2.15 Underwriting Profit Provision—The provision for underwriting profit in the actuarially developed rate, typically expressed as a percentage of the rate.

Section 3. Analysis of Issues and Recommended Practices

- 3.1 Estimating the Cost of Capital and the Underwriting Profit Provision—Property/casualty insurance rates should provide for all expected costs, including an appropriate cost of capital associated with the specific risk transfer. This cost of capital can be provided for by estimating that cost and translating it into an underwriting profit provision, after taking leverage and investment income into account. Alternatively, the actuary may develop an underwriting profit provision and test that profit provision for consistency with the cost of capital. The actuary may use any appropriate method, as long as such method is consistent with the considerations in this standard.

For historical and practical reasons, this standard separately discusses the underwriting profit provision, investment income from insurance operations, and investment income on capital. The actuary should keep in mind that evaluation of whether the cost of capital is appropriately recognized does not necessarily require these distinctions.

- 3.2 Basis for Cost of Capital Estimates—In estimating the cost of capital, the actuary should consider the relationship between risk and return. The methods used for estimating the cost of capital should reflect the risks involved in the risk transfer under consideration. These risks may include insurance, investment, inflation, and regulatory risks, as well as diversification, debt structure, leverage, reinsurance, market structure, and other appropriate aspects of the social, economic, and legal environments.

Thus, the cost of capital is likely to vary from one insurer to another. The actuary should recognize that the capital which is needed to support any risk transfer has an opportunity cost regardless of the source of capital or the structure of the insurer.

- 3.3 Estimates of Future Costs—Since all components of a rate should be estimates of future costs relating to the risk transfer during the prospective period of time to which the rate applies, capital costs, investment income, income taxes, cash flows, and leverage factors used in calculating the profit provision should all be based on expected future values.
- 3.4 Parameters of the Risk Transfer —The actuary should recognize that the cost of capital associated with an individual risk transfer may vary, based on the specific parameters of the transfer. To the extent that deductibles, dividend or return of premium plans, reinsurance, etc., affect the risk of the insurer, the cost of capital and the amount of capital needed to support the transaction may be affected.
- 3.5 Investment Income—There are two elements of investment income that the actuary

should consider: investment income from insurance operations and investment income on capital.

The actuary should assess the investment risk, since the amount and cost of capital should reflect investment risk as well as the risk associated with the insurance cash flows. Investment risk addresses the cost of default, reinvestment risk, and other investment uncertainties. Such risks can result in a significantly different yield than the stated yield rate.

Any of several general approaches may be used by the actuary to estimate investment income, as long as the assumptions are reasonable and appropriate. The investment yield rates used should be appropriate for the cash flow patterns associated with the coverages under consideration. If historical balance sheet and cash flow data are used to project investment income, the data should be adjusted to represent future investment income from the associated coverages.

The actuary may use any of a number of methods for recognizing investment income from insurance operations. Two such approaches are as follows:

- a. Methods that estimate investment income based on projected insurance cash flows. The insurance cash flows are projected for each future period, and the expected investment yield rate appropriate for each future period is applied to the insurance cash flow for that period. The investment yield rates should be appropriate for the cash flow patterns associated with the coverages under consideration.
- b. Methods that apply an expected investment yield rate to assets representing the liabilities for losses, loss adjustment expenses, and unearned premium net of agents' balances and prepaid expenses. If historic liability-to-premium relationships are used, they should be adjusted to reflect expected future relationships between liabilities and premiums. The actuary should also consider, for example, the effects of growth, changes in expected loss or expense patterns, and the effect of the delayed receipt of investment income. The investment yield rate selected should represent the expected investment yield for the insurer during the period the rates are expected to be in effect.

3.6 Income Taxes—To the extent income taxes are not included in the expense provision, the actuary should use provisions for expected income taxes that are consistent with the earnings expected from the insurance transaction being evaluated.

3.7 Contingency Provision—The actuary should include a contingency provision if the assumptions used in the ratemaking process produce cost estimates that are not expected to equal average actual costs, and if this difference cannot be eliminated by changes in other components of the ratemaking process.

While the estimated costs are intended to equal the average actual costs over time, differences between the estimated and actual costs of the risk transfer are to be expected in any given year. If a difference persists, the difference should be reflected in the ratemaking calculations as a contingency provision. The contingency provision is not intended to measure the variability of results and, as such, is not expected to be earned as profit.

- 3.8 Use of Different Bases—The cost of capital can be expressed as a percentage of capital, a percentage of assets, a percentage of premium, or other appropriate base. The actuary may choose any such appropriate base. Actuaries may use different bases, which can be converted from one to another. Regardless of which base is used to reflect the cost of capital, the actuary should clearly identify the base used and should document the relevant assumptions.
- 3.9 Accounting Rules for Comparing the Cost of Capital—The accounting rules employed within any model should be internally consistent. When comparing one industry with another, the actuary should make any necessary adjustments so that costs of capital of industries with different accounting methods can be properly compared.

Section 4. Communications and Disclosures

- 4.1 Conflict with Law or Regulation—If a law or regulation conflicts with the provisions of this standard, the actuary should develop a rate in accordance with the law or regulation, and disclose any material difference between the rate so developed and the actuarially determined rate to the client or employer.
- 4.2 Documentation—The actuary should be guided by the provisions of ASOP No. 9, *Documentation and Disclosure in Property and Casualty Insurance Ratemaking, Loss Reserving, and Valuations*.
- 4.3 Disclosures—The actuary should include the following, as applicable, in an actuarial communication:
- a. in addition to the disclosure covered in section 4.1, the disclosure in ASOP No. 41, *Actuarial Communications*, section 4.2, if any material assumption or method was prescribed by applicable law (statutes, regulations, and other legally binding authority);
 - b. the disclosure in ASOP No. 41, section 4.3, if the actuary states reliance on other sources and thereby disclaims responsibility for any material assumption or method selected by a party other than the actuary; and
 - c. the disclosure in ASOP No. 41, section 4.4, if, in the actuary's professional judgment, the actuary has otherwise deviated materially from the guidance of this ASOP.

Appendix 1

Background and Current Practices

Note: This appendix is provided for informational purposes, but is not part of the standard of practice.

Background

Historical Procedures—Until the 1970s, it was common practice to include in rate calculations a standard underwriting profit and contingency provision of 2.5% for workers compensation insurance and 5% for other property/casualty lines of insurance (6% for some property lines). These provisions did not explicitly reflect investment income, since there was general agreement at the time that these standard provisions implicitly reflected investment income and insurance risk in a reasonable fashion. However, economic and structural changes in the insurance industry over time began to lead to the explicit recognition of investment income in calculating insurance rates.

Historical Issues—A number of issues have historically accompanied the development and evaluation of the underwriting profit and contingency provisions: (1) how to measure risk and reflect it in the underwriting profit provision, (2) how or whether to measure any systematic variation from expected costs and reflect it in the contingency provision, (3) which accounting rules should be used to measure insurance returns and to compare them with returns in other industries, (4) how or whether to allocate investment income and capital, and (5) how to relate underwriting profit provisions in rates to the cost of capital.

Role of Capital—Capital plays several roles in an insurance transaction, including providing the initial investment in physical plant and equipment and providing working capital. However, the primary role is to assure payment of obligations from insurance contracts, over and above those funds backing the liabilities.

Capital has a value and its use entails a cost. The cost is the expected return the capital could earn in alternative investments of equivalent risk. Judicial decisions dealing with the cost of capital and profit provisions (see, e.g., *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944)) provide background and definitions for the determination of the cost of capital in a regulatory setting.

Role of the Underwriting Profit Provision—The underwriting profit provision, together with all other cost and revenue components as defined in section 2.12, provides the risk taker with an expected total return to cover the cost of capital.

Role of the Contingency Provision—A common assumption underlying property/casualty insurance ratemaking is that the expected costs included in the rate calculations will equal the actual costs over the long run. If not, and the expected difference cannot be explicitly attributed

to a specific component of the rate (and thereby eliminated), then this difference is incorporated in the ratemaking process by including a contingency provision.

Current Practices

A method commonly used to develop or test the underwriting profit provision in insurance rates is to estimate the cost of capital and translate that cost into an underwriting profit provision. Some methods currently used to estimate the cost of capital, and financial models to relate that cost to the underwriting profit provision, are described below.

Underwriting profit provisions can also be developed using models that do not directly relate the cost of capital to the underwriting profit provision. Some of these models are also described below.

Inclusion of a particular model in this appendix should not be interpreted as an endorsement, but rather a recognition that such a model is used. Some applications of these models may not be consistent with section 3 of this standard.

Estimating the Cost of Capital—Several techniques are used to estimate the cost of capital. These include, but are not limited to, the following:

1. **Comparable Earnings Model**—The comparable earnings model is used to analyze historical returns on equity for entities or industries of comparable risk. The cost of capital is related to the average rate of return over a historical period.
2. **Discounted Cash Flow Model**—One form of the discounted cash flow (DCF) model, the dividend discount model, is used to analyze the current prices and dividend levels of publicly traded securities that pay dividends. The cost of capital is calculated as the sum of the expected first-year dividend yield plus the expected annual growth rate in dividends.
3. **Risk Premium Model**—The risk premium model is used to analyze the spread in returns for investments of different risk. The cost of capital is estimated as the sum of the expected return on a reference investment plus a margin to reflect relative risk. One widely used form of risk premium analysis is known as the capital asset pricing model (CAPM), in which the reference security is a risk free Treasury security, and the risk margin is determined using a measure of risk known as *beta*, defined as the covariance of an investment's return with returns in capital markets as a whole.

Relating the Cost of Capital to the Underwriting Profit Provision—This section describes various models currently used regarding the relation of the cost of capital to the underwriting profit provision.

1. Models that directly develop an underwriting profit provision are as follows:

- a. **Net Present Value Model**—The net present value (NPV) model is used to discount the estimated net cash flow to the capital provider at a rate equal to the cost of capital. For the purpose of these calculations, *net cash flow* is defined as the residual amounts of cash that flow to and from the equity account, after all policy obligations are met. The net cash flow reflects the timing of each of the individual cash flows, including the commitment and release of capital in support of the insurance transaction. The internal rate of return (IRR) model, a specific application of the general NPV model, uses an iteration technique to calculate the rate(s) of return that will set the net present value of a risk transfer's cash inflows and outflows equal to zero.
 - b. **Other Discounting Models**—Other discounting models can be used to estimate the present value of the individual cash flows from the insurance transaction. The present value of the premium and miscellaneous (non-investment) income, before profit, is set equal to the present value of the associated losses, expenses, policyholder dividends, and income taxes. The present values are estimated using appropriate prospective investment yield rates. A margin can be added to the present value of the premium so that the margin plus the expected investment income on capital generate a post-tax return that, when divided by the required capital, equals the cost of capital.
 - c. **Total Financial Needs Model**—Total financial needs models are used to develop the underwriting profit provision such that the sum of underwriting profit, miscellaneous (non-investment) income, investment income from insurance operations, and investment income on capital, after income taxes, will equal the cost of capital. Each of these components is explicitly quantified.
2. Models that do not directly relate the cost of capital to the underwriting profit provision are as follows:
- a. **State X Model**—The State X model (originally appearing in some Insurance Services Office, Inc. rate filings as the *State X method*) is used to estimate the investment income from insurance operations. The method does not, in itself, allow for development of the total return or of a profit provision; it is used merely to develop one component of the total rate of return—the estimated investment income from insurance operations.
 - b. **Risk Adjusted Net Present Value Model**—The risk adjusted net present value (RANPV) model is used to estimate the risk adjusted present value of the insurance cash flows. Each of the flows is analyzed for its specific risk, and the otherwise attainable prospective investment yield rate is adjusted by the risk component prior to calculating the present value. Using the RANPV model, one calculates the premium directly, so that the risk adjusted present value of the premium and miscellaneous (non-investment) income equals the risk adjusted present value of the losses, expenses, policyholder dividends, and associated in-

come taxes. The expected underwriting profit in the premium can be derived from the RANPV model by summing all components using their undiscounted values.

- c. Growth Requirement Model—The growth requirement model is used to set the level of retained earnings based on the expected future growth rate of the entity or industry.
- d. Additional Models—Other models that do not directly relate the cost of capital to the underwriting profit provision include options pricing models, arbitrage pricing models, models based on ruin theory, models based on utility theory, and shareholder value models.

Developing and Evaluating a Contingency Provision—Contingency provisions have been developed in practice using methods that measure differences between expected and actual costs.

Appendix 2

Comments on the 1996 Second Exposure Draft and Task Force Responses

The second draft of this standard was exposed for review in August 1996, with a comment deadline of December 2, 1996. Ten comment letters were received and reviewed carefully by the Task Force on Rate of Return of the ASB's Casualty Committee. Summarized below are the significant issues and questions contained in the comment letters, printed in lightface. The task force's responses appear in **boldface**.

General Observations

Of the ten comment letters received on the second exposure draft, most of the comments were favorable. Even those commentators who provided suggestions for changes seemed pleased with the overall direction the task force took in developing the second exposure draft. Samples of such satisfaction were found in comments such as follows: "I think this is an example of the type of standards that the profession should be developing," "[t]his draft represents an overall improvement over the initial exposure draft," and "the [task force] has taken great pains in carefully defining many critical concepts that our standards omit today." Most of the suggestions for revising text were to further clarify concepts already present within the second exposure draft.

However, it was also evident from the comments that some confusion still exists surrounding the "rate versus price" issue. For example, one commentator believes that the standard should not limit actuarial practice in setting profit margins that are either explicit or implicit in actual prices in the marketplace. The commentator further raises potential legal issues were the actuarial profession to engage in limiting actuarial practice in this area. **The task force agrees with the commentator that the standard does not apply to final (market) prices— the standard is entirely focused on the evaluation of costs. In fact, the task force has consistently and consciously focused on costs (not on prices) in its deliberations in consideration of the legal environment and has obtained competent legal advice as appropriate.**

The commentator also questions whether a consensus on acceptable actuarial practice currently exists in this area. **The task force believes such consensus exists and is embodied in the standard. The current syllabus upon which actuarial examinations are based is one indicator that a consensus exists. The extensive presentations and discussions of the proposed standard at Casualty Actuarial Society (CAS) meetings and seminars is another indication that such a consensus exists.**

Section 1. Purpose, Scope, and Effective Date

Section 1.1, Purpose—One commentator thought that the use of the phrase *include the cost of capital* in the first sentence of this section implied that the *Statement of Principles Regarding*

Property and Casualty Insurance Ratemaking of the CAS requires that an explicit provision for the cost of capital be included in rates. **The task force revised the text by replacing *include* with *provide for* to more closely match its understanding of the *Statement of Principles*.**

Section 1.2, Scope—**The task force revised this section to more clearly distinguish between *rate* and *price*. In addition, the task force added language to clarify that the standard applies to property/casualty risk financing systems, such as self-insurance.**

Section 2. Definitions

Section 2.2, Contingency Provision—One commentator suggested clarifying the language in this section to note that, in addition to quantification, a contingency provision might be provided for in other ways. **The task force reworded the section, making it more consistent with section 3.7.** Another commentator questioned the definition's lack of consideration of the potential variance in results. **The task force did not expand the definition, since it believes that the profit provision more appropriately should reflect variance in results.**

Section 2.3, Cost of Capital—Two commentators suggested changes. One suggested inclusion of specific components in the definition; the second suggested that *cost of capital* be defined as the *cost of capital desired by the capital provider*. **The task force did not modify the definition, as section 3.2 references a number of influences on the cost of capital. The task force did, however, revise section 3.2 by including additional explanatory language and believes these revisions to section 3.2 address the concerns raised by the second commentator.**

Section 2.4, Insurance Cash Flows—One commentator suggested changing the title of this section to Net Insurance Cash Flows, while another suggested referencing the treatment of taxes directly rather than indirectly. **The task force modified the language to clarify that miscellaneous (non-investment) income is from insurance operations. The revised section 2.4 also presents the components of insurance cash flow as items in a list to avoid the appearance of a calculation and directly references the treatment of income taxes.**

Section 2.6, Investment Income—Two commentators suggested clarifying the language with respect to the treatment of income taxes. **The task force adopted the suggestions and also adopted consistent language in sections 2.4 and 2.10.**

Section 2.8, Investment Risk—Two commentators pointed out an inconsistency in the usage of the terms *proceeds* and *income* in other definitions. **The task force clarified the text by using the term *proceeds* consistently.**

Section 2.10, Operating Profit, and Section 2.13, Underwriting Profit (now sections 2.10, Operating Profit; 2.13, Underwriting Expenses; and 2.14, Underwriting Profit)—Three commentators questioned the usage of the terms included (or excluded) in these definitions. There also appeared to be some confusion as to which expense items were included in the term *expenses*. **After careful review and discussion of the comments, the task force made changes in these definitions and added a new section (2.13, Underwriting Expenses). The intent of**

the commentators was incorporated in the three definitions, and the task force believes the revisions achieve the clarity and consistency suggested. These definitions are consistent with the categories used in the underwriting and investment exhibit statement of income in the National Association of Insurers Commissioners (NAIC) annual statement blank for property and casualty insurers. Specifically, the definition of *underwriting profit* is consistent with the definition of *net underwriting gain (or loss)* from the NAIC statement blank.

Section 2.12, Total Return—One commentator suggested that the definition include some examples of commonly used bases of total return. **The task force did not make any changes, since it believes the definition is clear as stated.**

Section 3. Analysis of Issues and Recommended Practices

Section 3.1, Estimating the Cost of Capital and the Underwriting Profit Provision—One commentator wanted to change the beginning of the third sentence of this section from *Similarly* to *Alternatively*. **The task force made the change.**

Section 3.2, Basis for Cost of Capital Estimates—One commentator suggested that in the second sentence, the phrase *business activity* be changed to *risk transfer*. **The task force made this change.** Another commentator suggested adding *currency* to the list of risks included and noted that the list could be construed as “limiting or as a checklist of specific requirements.” **The task force disagrees. Since the types of risk to consider are many and diverse, the task force believes that it is necessary to provide a reasonable set of examples. The language of the standard (i.e., *These risks may include*) clearly indicates that the list is not exhaustive.**

Another commentator suggested that the reference to the *Hope Natural Gas* case be placed in the background section, i.e., in appendix 1. **The task force agrees and moved the reference accordingly (see the section titled, Role of Capital).**

Note as well that a new paragraph was added to section 3.2 (see the discussion below regarding comments received on section 3.8).

Section 3.3, Estimates of Future Costs—Several commentators disagreed that capital costs should be based upon expected future values, since the cost is dependent on the risk or variability to which it is exposed. **The task force agrees that risk or variability is an element of capital costs. Risk or variability is appropriately considered in deriving the expected value; therefore, no change in the language used is necessary.**

Section 3.4, Risk Sharing (now titled Parameters of the Risk Transfer)—One commentator suggested that the title of this section should be changed, noting that insurance is a risk transfer device, and not a risk sharing device. This commentator also suggested alternative wording to clarify the roles of the two main parties to the insurance transaction: the insured and the insurer. **The task force agrees with the commentator and rewrote the section to indicate that the cost of capital may vary with the specific parameters of the risk transfer.**

Another commentator noted that deductibles, limits, etc., affect the *structure* of the risk transfer rather than the parties involved. **The task force agrees that these factors affect the structure of the risk transfer and believes that the revised language addresses this concern.**

Section 3.5, Investment Income—One commentator suggested a revised second sentence in paragraph two as follows: *Investment risk includes the estimated cost of default and reinvestment risk on the assets associated with the proposed transaction, since such costs can result in a significantly different yield than the stated yield rate.* **The task force agrees with the commentator and changed the text to be substantially similar to the suggested revision.**

This commentator also suggested revising paragraph (b) to add *retention of business* as a subject for the actuary's consideration. **The task force agrees that retention of business may be a consideration, but the standard is not intended to provide an exhaustive list of considerations. The phrase *for example* was added to clarify that the section does not provide a complete list.**

Section 3.6, Income Taxes—One commentator suggested adding the following sentence: *The income tax position of the risk assuming entity, such as tax loss carry forwards, and alternative minimum taxes, may also be relevant to accepting or rejecting the proposed risk transfer.* **The task force disagrees with this suggestion, because it believes this suggestion addresses considerations that are not relevant to the cash flows for the risks being transferred. Therefore, no change was made.**

Section 3.7, Contingency Provision—One commentator suggested adding a sentence which would state that the actuary need not explicitly identify the contingency provision separate from the profit provision, and that the contingency provision is not intended as a risk margin for catastrophic events. **The task force believes the definition of *contingency provision* makes it clear that it is *not* a risk margin for catastrophic events. The task force disagrees that a contingency provision can implicitly be combined with a profit provision, because the two provisions are distinctly different, both subject to explicit determination.**

Another commentator suggested that the use and meaning of a contingency provision was unclear and needed to be clarified in the standard. **The task force believes that, with the clarifying changes made to the second paragraph of this section, the standard adequately explains the use of the contingency provision as a correction factor when the ratemaking process has produced in the past, and is expected to produce in the future, cost estimates not equal to average actual costs.**

Section 3.8, Structure of Insurer—This section of the second exposure draft addressed the structure of the insurer, such as stock, mutual, etc. Several commentators expressed concern that the requirements of the capital providers should be taken into account when considering the cost of the insurance product, and that non-stock organizations might have different requirements than stock companies. One commentator specifically suggested making a greater distinction between the cost of capital and the desired return on capital. **The task force rewrote the text of this section to place greater emphasis on the economic concept of *opportunity cost*, which**

refers specifically to the value of capital in its next best alternative use. Under this definition, the proper cost of capital is the return that the capital could earn in an alternative investment of equivalent risk. The task force does not believe that this differs depending on the ownership structure (i.e., stock, mutual, or other) of the insurer per se. However, as discussed in section 3.4, the actuary's estimate of the cost of capital should reflect characteristics of the risk transfer that may arise due to ownership structure (such as, for example, the availability of policyholder dividends). Note, in addition, that the text of this section was moved to section 3.2 in order to enhance clarity.

One commentator who questioned section 3.8 also wished to add to the standard a new section, which would read as follows:

Several of the models used for estimating the underwriting profit provision also permit the actuary to rank potential risk transfer undertakings. An actuary should be prepared to rank the risk versus the reward (the total return, from underwriting and from investment income) for various scenarios involving the allocation of capital towards a certain line of insurance or a specific product.

The commentator's rationale for this suggestion is that “the actuary of the future may often be called upon to estimate not only the reward (the total return from allocating capital towards a certain line of insurance or a specific product), and not only the associated risk, but also to rank several risk/reward scenarios for a client or employer.” **The task force agrees that an actuary can be asked to estimate and rank various risk/reward scenarios for a client or an employer. However, the task force thinks that while this is implicit in the role an actuary plays, the matter is beyond the scope of the standard.**

Appendix 1—Background and Current Practices

Role of the Underwriting Profit Provision—One commentator found the references to *all other cost and revenue components* too vague. **The task force agrees that the reference is not precise, but the next clause of the sentence refers to *total [rate of] return*, which is precisely defined in section 2.12. Hence, no change was made.**

Estimating the Cost of Capital—One commentator suggested adding a parenthetical phrase, (*generally a risk free investment*), to the description of the risk premium model (in the second sentence of item (3), after the phrase, *reference investment*). **The task force disagrees with this change. In the typical (perhaps the most common) implementation of the risk premium method, the reference security is a long-term utility bond, which is not risk free. Thus, the second sentence was left unchanged. However, the task force did modify the next sentence as follows: *One widely used form of risk premium analysis is known as the capital asset pricing model (CAPM), in which the reference security is a risk free Treasury security, and the risk margin is determined....* This correctly identifies that in the CAPM variant of risk premium analysis, the reference security is risk free.**

Relating the Cost of Capital to the Underwriting Profit Provision—One commentator expressed concern about the use of the singular *rate* in the last sentence of the section that discusses the net present value model, and another suggested alternative wording for clarity, in the definition of the IRR model. **The task force changed *rate* to *rate(s)*, and adopted the proposed wording to note that the IRR calculates the rate(s) of return by setting the net present value of a risk transfer's cash inflows and outflows equal to zero.**

The task force thanks everyone who took the time and made the effort to write comment letters. The input was helpful in developing the final standard.

EXHIBIT 53

