**TESTIMONY OF JOHN W. ROLLINS, FCAS, MAAA**

**PRESIDENT, ROLLINS ANALYTICS, INC.**

## Executive Summary

I am an independent consulting actuary focused exclusively on property insurance issues in catastrophe-exposed regions of the U.S. I am qualified to practice in this area as a Fellow of the Casualty Actuarial Society, Member of the American Academy of Actuaries, and experienced practitioner in this field. A brief biography is included as Appendix A. I was engaged by Jorden Burt, LLP, counsel for Assurant, Inc., to offer comments at this hearing conducted by the National Association of Insurance Commissioners (NAIC) at its Summer Meeting in Atlanta, GA on August 9, 2012.

A summary of my points is as follows:

1. Lender-placed insurance (LPI) is a form of property hazard insurance which is similar in many respects to standard residential property insurance (RPI) placed by consumers; rates for LPI comprise the same basic actuarial cost components used in RPI. However, there are non-trivial differences in some rate components developed for LPI - notably those for catastrophe costs, underwriting contingencies, and underwriting expenses. Some commenters have criticized the magnitude of and methods of development of certain rate components.
2. Catastrophe costs include two main elements: projected gross loss costs, and cost of capital. Gross loss costs are usually projected using scientific catastrophe simulation models ("CAT models"). Cost of capital reflects continuous commitment of claims-paying funds at levels which are multiples of annual premium. Each element is a significant rate component throughout all coastal states, and in risky regions like Florida, catastrophe costs are demonstrably the plurality of the entire actuarially sound rate for RPI.
3. Catastrophe costs may be relatively higher for LPI than RPI due to the inability of the insurer to control geographic concentration, which is the main driver of cost of capital requirements. CAT model statistics indicate that the more limited coverage of LPI may not fully offset this additional risk. Assurant's recent rate filings in Florida show actuarially sound provisions for catastrophe costs that significantly exceed that for non-catastrophe losses.
4. In rate filings, provisions for underwriting "profit and contingencies" actually reflect two distinct rate components. While the profit provision addresses random variation in loss outcomes and the economic compensation for that risk, the contingencies element accounts for measurement error in estimating the expected non-catastrophe losses. LPI expected non-cat losses are subject to potentially higher measurement error for at least three

reasons: bulk underwriting, automatic and continuous coverage, and behavioral signals regarding the caretaker of the property. Therefore, the contingencies component of the rate should be higher for LPI.

5. Underwriting expenses are different for LPI due to the product itself – a bulk master policy – as well as the unique activities associated with administering the book of risk. Actuaries who are experts in LPI, as well as LPI operational experts, may study and determine expense elements that should be allocated either inside or outside the insurance rate. Ratemaking actuaries should incorporate the results and properly measure the insurance-related expenses in the development of rates. Labeling expense elements as "excessive", "unreasonable", or "a deception" without support, or referencing benchmark expense ratios from RPI as a source for unsupported percentage reductions in LPI expenses, are not substitutes for actuarial analysis of expenses. Assurant's recent Florida rate filings show reasonable expense provisions that were meticulously reviewed by regulators.
6. These significant differences imply that rates for LPI should be developed independently, and that benchmarks and parameters derived from RPI may or may not be appropriate support for rate components. The reference of some commenters to incomplete RPI benchmarks, and progression to an immediate conclusion that LPI rates are excessive, is not actuarially sound. Assurant's recent rate filings in Florida are an example of an independent, actuarially sound rate development exercise for LPI.

Further explanation and analytical support for some points follows below.

## Background - Property Insurance Rate Components

Actuarially sound rates for property insurance are generally made using the accepted fair premium formula, in ***Equation 1*** below.

$$(1) \qquad P = \frac{L_N + L_C + R + F}{1 - v - \pi - \varepsilon}$$

In this formulation, uppercase letters are stated per unit of exposure (e.g. an annual policy) and lowercase stated per dollar of premium (e.g. a pre-set percentage). $L_N$ represents the non-catastrophe losses, $L_C$ the catastrophe losses, $R$ the net cost of capital (often largely provided by reinsurance), $F$ the fixed underwriting expenses not varying with premium (e.g. other acquisitions, general overhead, and inspections), $v$ the variable underwriting expenses (e.g. commissions and taxes), $\pi$ the profit loading, and $\varepsilon$ the contingencies loading.

All values are actually "expectations" or projections, which is appropriate because ratemaking is a prospective exercise. Most components are projected with reliance on recent historical data, such as claims experience for non-cat losses and financial statements for underwriting expenses. The exception is catastrophe losses.

Actual catastrophe losses are the result of weather or social phenomena affecting many policies at once, and vary so greatly from year to year that they are separated in rate development and measured differently. When it is feasible, they are projected using scientific simulation models targeted at specific hazards, such as hurricanes or terrorism. These models contain enough simulations so that the statistical "law of large numbers" eliminates most of the random variation in simulated outcomes. However, actuaries must validate their output as representative of the expected hazards affecting the insured exposure[1]. Modeled losses are taken as given once the model is validated, and the substitution of modeled losses in rate development reduces the variability of this rate component. But insurers ultimately bear the risk of severe events in any year, whether modeled properly or not.

In risky regions, models show worst-case scenarios ("probable maximum losses" or PML) which can exceed by factors of 10 or more the expected losses ("annual average losses" or AAL). The regulated business of insurance requires insurers to pay claims quickly even in the event of remote PML scenarios (e.g. the "100-year event"). As a result, continuous access to funds totaling many times annual premium is required, and owners of this capital require remuneration for the risk of its loss. Potential catastrophe losses are capitalized through a combination of retained capital, reinsurance, insurance-linked securities (e.g. "cat bonds"), and for public insurance plans, taxing authority, and the cost of capital is recognized in rate development.

The use of projections also introduces measurement error to each rate component. Because actual claims experience depends on both random events and systematic phenomena, such as court decisions and macroeconomic changes, the expected non-cat losses are the component subject to the greatest variation over time. The contingencies factor is a margin for the potential systematic variation between actual and expected losses[2].

[1] Significant guidance for actuaries in determining whether catastrophe model simulation output is appropriate for ratemaking is provided in Actuarial Standards of Practice #38 and #39. This discussion assumes proper validation of the cat model has been carried out in rate development.

[2] The scope of the contingencies factor, and the important distinction between systematic and random variation in claims costs, and how each should be provisioned in ratemaking, is discussed in Actuarial Standard of Practice #30. Briefly, the contingencies factor should represent the possibility of systematic variation in measuring claims costs, but should not represent a risk margin for random unfavorable claims experience.

Underwriting expenses, both fixed and variable, and profit loadings are generally not subject to significant measurement error, but are subject to arguments regarding their propriety as insurance-related costs. Actuaries have the business judgment to contribute to those discussions, and some are experts in LPI expenses. Ultimately the decision to include a cost in the rate base rests with top insurer management, its actuaries, and its regulators. There are strong arguments that many expenses unique to LPI, such as loan portfolio tracking and borrower communication expenses, are appropriate for inclusion in the rate base.

### Real-World Catastrophe Costs for RPI and LPI

Catastrophe costs include both the gross expected losses (AAL) and the net cost of capital. "Gross" means direct to the insurer, whether reimbursed by a reinsurer or not. "Net" means that the expected value of any recoveries under a reinsurance contract[3] (e.g. ceded AAL) should be subtracted from the ceded premium. Therefore, gross AAL, plus net cost of capital, encompasses total catastrophe costs without double-counting the portion of losses reimbursed.

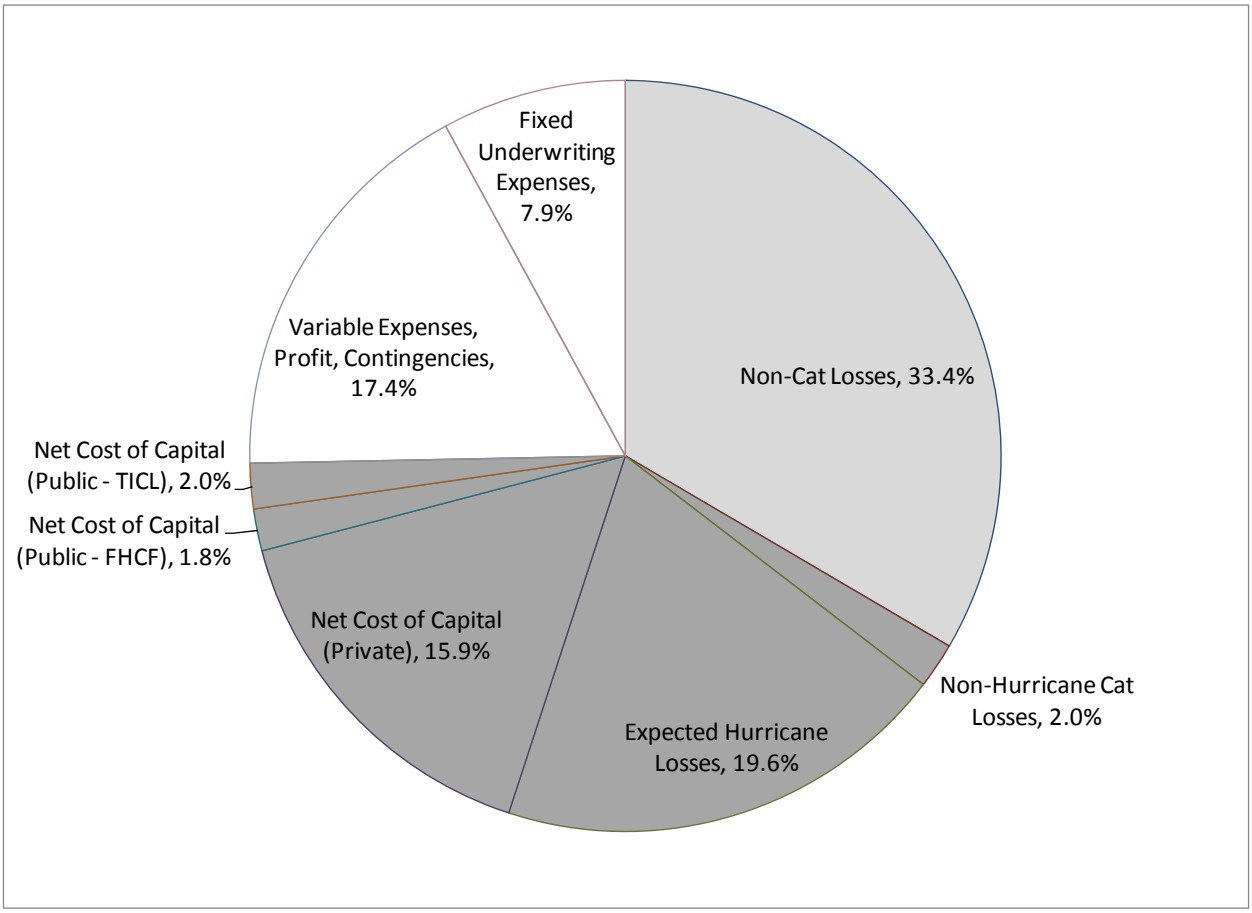
Each of these two elements can be a significant portion of actuarially sound rates for RPI. The cost of capital is ultimately set by a marketplace, but linked actuarially to measures of the variation of annual losses (such as standard deviation of annual losses, or perhaps the ratio of PML to AAL). This "technical price" for capital is overwhelmingly driven by geographic concentration. A portfolio of many properties close together have a worst-case loss from a single event which is much higher than the same scenario for a book of properties spread out around a region. This is true even as a proportion of per-property AAL, not just in absolute terms. Interestingly, at a high enough degree of concentration, the rate component for cost of capital can exceed the rate component for AAL, even in risky regions with high average losses.

Total catastrophe costs often exceed total non-cat losses in risky regions, such as Florida. Despite constant efforts to spread their risk and without the limitations on acceptance and risk management faced by LPI insurers, most Florida RPI insurers find that this is true in their actuarial estimates. ***Figure 1*** below[4] shows the

[3] Insurance-linked securities, such as "cat bonds", are structured so that the protection appears as standard reinsurance on the sponsor's balance sheet. This discussion is agnostic regarding the form of the reinsurance protection.

[4] This chart was derived from the Florida Office of Insurance Regulation's "Standardized Rate Indications Workbook" (SRIW), a required and publicly available actuarial summary form submitted with each rate filing. 77 Homeowners filings since Jan. 1, 2011 were included in the averages, and the ratios are weighted on latest year's direct written premium. Loss components include loss adjustment expenses (LAE). Ratios are re-stated pro-rata to add to 100%; the sum of the ratios as reported on the SRIW would exceed 100% because, on average, rates are inadequate and the sum of cost components exceeds current premium (e.g. rate increases are indicated).

relative size of indicated rate components for a sample of Homeowners rate filings over the past 18 months by Florida admitted insurers.



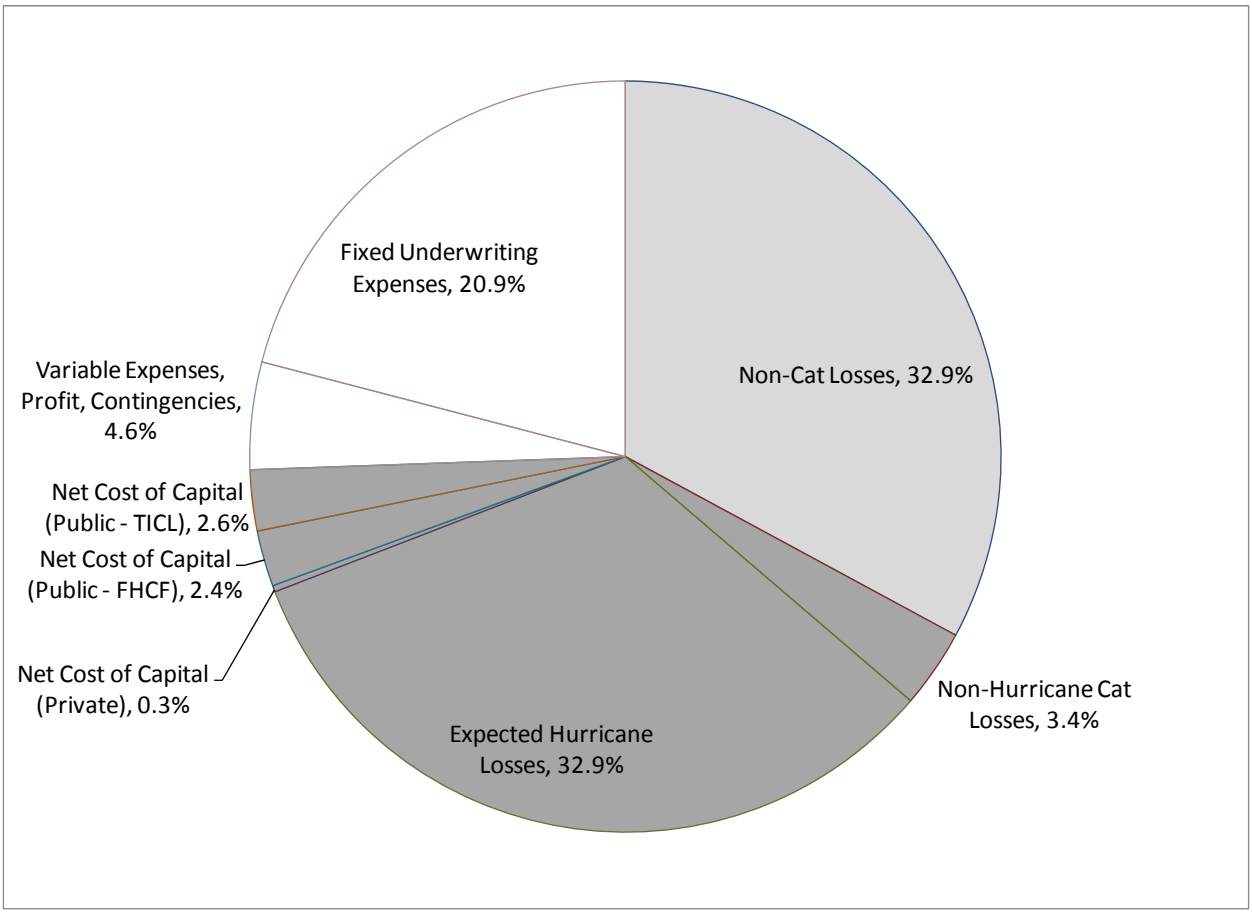

Total cat costs, including expected losses plus net costs of capital, are 41.3% of the fair premium dollar (19.6% + 2.0% + 15.9% + 1.8% + 2.0%), while non-cat expected losses are only 33.4% and all other components total just 25.3%. Further, net costs of capital total 19.7% (15.9% + 1.8% + 2.0%) and actually exceed the total gross expected hurricane losses of 19.6%[5].

LPI insurers have even greater potential exposure to concentration "penalties" in the form of higher net costs of capital, because the nature of their product prevents them from controlling the rapid accumulation of concentrated exposures in small areas. This pattern may be exacerbated as local real estate markets and loan portfolios are affected by economic struggles. In this aspect, the LPI market resembles a quasi-residual market, taking risks not covered by RPI insurers, and piling on exposure in many of the same areas. It is reasonable for actuaries to

[5] Florida requires insurers to report net costs of capital in three separate components, two related to public reinsurance programs (FHCF and TICL); the breakdown is not relevant to our discussion.

study whether LPI catastrophe costs should be a relatively higher portion of the total premium.

***Figure 2*** below is the same rate composition analysis applied to the 2012 Homeowners rate filing for Florida's Citizens Property Insurance Corporation[6].




Citizens' net cost of capital is actually understated; as a public entity, it funds much of its catastrophe risk with post-event taxes, which are not fully represented in its rate development. Even without accounting for this eccentricity, the catastrophe costs total 41.6% and exceed the non-cat losses of 32.9% by a slightly larger margin than in the admitted market.

It is true that LPI coverage is similar to that of a Dwelling Fire policy, which does not cover personal property inside the home or loss of use expenses. However, catastrophe models separate losses by coverage, as shown in ***Table 1***, taken from

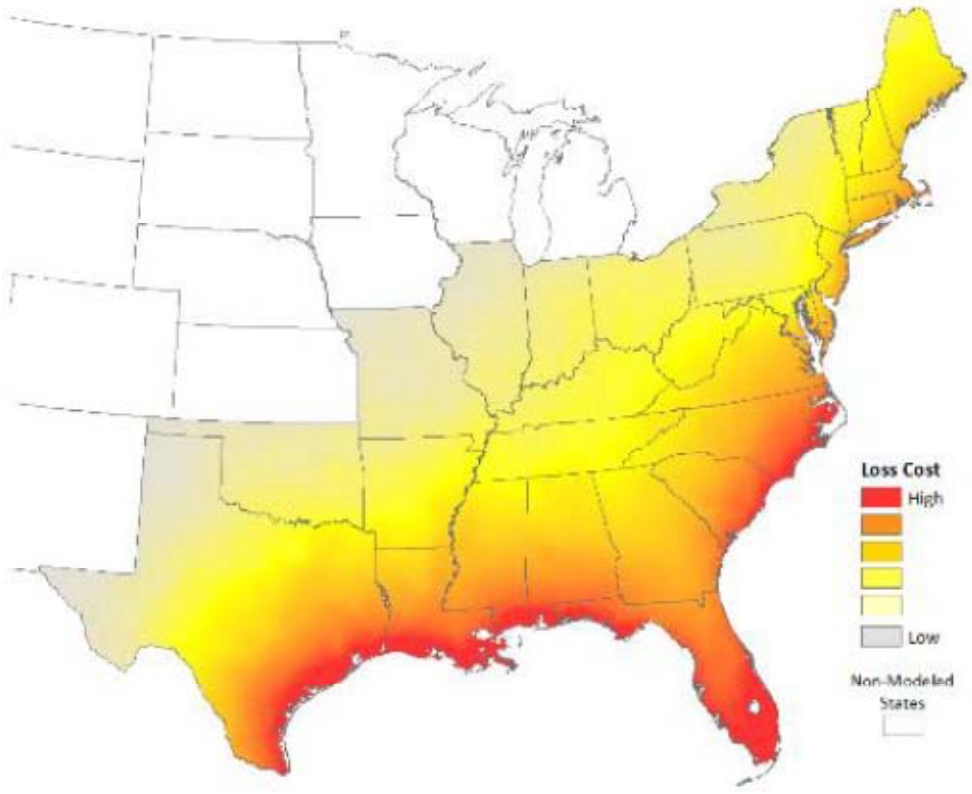
[6] This chart is derived from the SRIW for Citizens labeled "RIF Combined with FHCF BU" in FL OIR filing #11-12403 and otherwise has the same assumptions as Figure 1.

a 2010 public submission to the Florida Commission on Hurricane Loss Projection Methodology (FL Commission)[7].

| | Cov A | Cov B | Cov C | Cov D | Total |
|---|---|---|---|---|---|
| Actual | 0.745 | 0.074 | 0.142 | 0.039 | 1.000 |
| Modeled | 0.727 | 0.073 | 0.151 | 0.050 | 1.000 |

Dwelling coverage (Cov A) accounts for 73% of the modeled loss costs in Florida when historical hurricanes are re-simulated by one modeling firm accepted by the Florida Office of Insurance Regulation (FLOIR). Under any reasonable coverage assumptions, catastrophe costs remain significant.

The bottom line is that <u>any analysis of LPI loss ratios in catastrophe-exposed regions without a proper accounting for the plurality or majority impact of catastrophe losses is not actuarially credible</u>. Most of the eastern U.S. is significantly exposed to hurricane risk, as indicated by global catastrophe modeling firms such as AIR Worldwide, the source for ***Figure 3*** below[8].




[7] This is Table 12 from AIR Worldwide's submission to the Commission under its 2009 Standards for accepting models for use in Florida rate filings. This model (AIR v.13.0) was accepted on Nov. 8, 2010.

[8] From AIR Worldwide's webinar and white paper, "Assessing U.S. Hurricane Risk – Do the Models Make Sense?", Jan. 2012.

## Assurant's Recent LPI Rate Filings in Florida

Florida is the most active market for LPI in the U.S., and the influence of catastrophic events on LPI rates in Florida is illustrative of nationwide considerations. Assurant is the largest insurer in this market. Florida also has the strongest open records laws in the U.S., and consequently we can examine significant public-domain actuarial information underlying LPI rates filed with and approved by FLOIR. Assurant made a rate filing in 2006 which was fully actuarially supported and approved, and was further ordered by regulators to demonstrate the continuing actuarial soundness of its LPI rates in 2009. After an exhaustive review, regulators agreed that current rate levels are justified.

These recent rate filings[9] show that the "Hurricane Losses and LAE" component of its rates represents over 20% of the premium dollar, and its net costs of reinsurance total over 25%. These total catastrophe costs of 45% are in line with or slightly exceed the RPI insurer averages, and validate the above observations about relative catastrophe provisions for RPI and LPI. Further, the embedded profit provision is that promulgated by Florida regulators[10] at less than 4% of premium. Finally, the commission provision of 15% and overhead expense provisions totaling about 18% are meticulously documented in the filing and by way of a lengthy question and answer exchange with regulators. All of these observations clearly demonstrate the primacy of catastrophe risk in the development of LPI rates.

Note also that the program contains options to add personal property and liability coverages, so this exposure may be significant notwithstanding that the optional coverages are subject to additional premium charges.

## Underwriting Contingencies Factors for LPI vs. RPI

The bulk acceptance of risk under LPI precludes underwriting of individual properties and insured parties. In RPI, individual risk underwriting is critical to properly classify risk elements and determine rating plans based on expected cost differences among risk classes. Though it generates expenses, it lowers the uncertainty of financial results. In its absence, the measurement error associated with the expected losses of any property, or the additive expected losses of a book of multiple properties, can only increase. Therefore, the underwriting contingencies factor in a sound premium for LPI should be relatively higher than the same factor for RPI on the same book of risk. Though harder to quantify than differences in catastrophe risk, an increased contingencies factor is supported by three elements:

[9] The source for values in this paragraph is FL OIR filings FCP #06-12735 and #09-21995, American Security Insurance Co. Residential Mortgage Service Program.

[10] See memorandum OIR-04-002M.

failure to underwrite, automatic and continuous coverage, and financial responsibility signals.

First, because the physical locations and property attributes cannot reasonably be reviewed, signs of increased hazard for an individual property are rarely acknowledged and considered by the LPI insurer. Vacancy of the property, debris exposure in catastrophes, hazard loss mitigation features (e.g. hip-shaped roofs, hurricane shutters), demographic factors, and factors associated with the care and condition of the property would all lead to potentially higher rate classifications which cannot be implemented in LPI insurance rating plans.

Second, the nature of LPI insurance is that coverage is extended automatically (e.g. continuously back to the date of lapse of a RPI policy) without verification that no losses have occurred. This is an almost unthinkable practice in RPI and most forms of property insurance. The exposure to unreported prior losses is de minimis in RPI rates, but should be considered in LPI rates.

Finally, LPI insurance is triggered by an event which, in RPI, would send a signal of questionable financial responsibility of the caretaker of the property – a failure to pay a required insurance premium. Decades of research by entities such as the U.S. Federal Trade Commission, the Texas Department of Insurance, and private actuaries and academics demonstrates the significant negative correlation between the quality of an insured's recent financial responsibility history and propensity to generate future insurance claims. In many states, RPI insurers qualify, underwrite, and rate risks based on credit reports and other sources of financial responsibility data. This classification opportunity does not exist in LPI. An assumption that estimated risk does not change due to a known failure to pay premium is at odds with reams of actuarial evidence.

## Recent Assertions That LPI Rates Are Excessive Are Not Consistent with Actuarial Principles

I am aware that several commenters often heard as experts by the NAIC have testified that LPI rates are "*unsupported by any evidence, actuarial principles, or logic*"[11], "*unfair and excessive*", and that high expected loss ratios in rate filings were "*a deception*".[12] My research has not shown that these commenters have performed a proper actuarial analysis of, or made a regulatory filing for, LPI rates for any particular insurer in any state.

[11] Testimony of Birny Birnbaum on behalf of the Center for Economic Justice, Public Hearing on Force-Placed Insurance before the New York Department of Financial Services, May 21, 2012.

[12] Testimony of J. Robert Hunter before the New York Department of Financial Services on "Force-placed Insurance in New York", May 17, 2012.

While anyone in the U.S. has a Constitutional right to speak his mind, an actuary making such comments in the absence of a supporting work product may violate the Code of Professional Conduct adopted by U.S. actuarial organizations. From someone not credentialed as an actuary, the comments must be evaluated in light of the fact that the commenter has no standing to determine the actuarial soundness of a particular rating plan.

These concepts are illustrated more fully in the testimony and report of Michael J. Miller, FCAS, responding to some of these comments[13]. In brief, Mr. Miller, an experienced actuary, points out that assertions of excessive rates based on limited retrospective examination of only non-catastrophe loss ratios on a national basis are "*inconsistent with generally accepted actuarial practices and inconsistent with the way rates are calculated and regulated in the U.S. The reasonableness of rates can only be determined on a state-by-state and risk class-by-risk class basis*". This expresses the core of the flaws in the commenters' arguments.

Neither Mr. Miller nor I can determine whether specific LPI rates are actuarially sound without performing the proper analysis. The existence of public, comprehensive rate filings approved by Florida regulators justifying the rates for the largest provider of LPI insurance in the state with the largest LPI volume in the U.S. is germane to the discussion, and it is curious that the commenters have not cited this evidence in forming their conclusions.

### *Putting it All Together – LPI Rates Should be Supported Independently*

The points made above lead to my main conclusion that an actuarially sound formulation of LPI rates should be made independently, and that assertions regarding LPI rates which are based on simple springboarding from admitted market RPI data and cost ratios are not consistent with actuarial principles and should be viewed with skepticism.

I agree with the conclusions of some commenters that LPI rates for admitted insurers should be justified by way of a rigorous regulatory examination of an actuarially sound study supporting the rates, in accordance with the laws of each state. I disagree that the preponderance of current evidence casts doubt on this aspiration. In this testimony, sampling from one state representing the plurality of LPI volume in the U.S., I have provided evidence that proper rate development and review is in fact occurring, and that the results are reasonable in light of publicly available statistics reflecting the relative size of rate components from both large samples of voluntary insurer rate filings, and recent residual market rate filings.

[13] Mark Kunzelmann, et al. vs. Wells Fargo Bank, N.A., and Wells Fargo Insurance, Inc. Case No. 11-CV-81373-DMM, Document 69-1, Expert's Report on Actuarial Issues Related to Rates for Lender-Placed Collateral Protection Insurance, Michael J. Miller, FCAS, July 2, 2012.

## Appendix A

**John W. Rollins, FCAS, MAAA**
**President, Rollins Analytics, Inc.**

Mr. Rollins founded Rollins Analytics, Inc. at the end of 2009. The firm's mission is to deliver credible and actionable professional actuarial analysis and strategic consulting to institutions concerned with insurance risk in the private and public sector.

Mr. Rollins is a former vice president at AIR Worldwide, a global provider of risk modeling software and consulting services. He also has 22 years of experience as a U.S. property and casualty actuary in many environments, including personal and commercial lines insurers, global and regional consulting firms, a top-tier accounting firm, and an insurance advisory organization. He was chief actuary at both Citizens Property Insurance Corporation, Florida's state-run property insurer, and Florida Farm Bureau Insurance Companies. He currently serves on the Board of Governors of Citizens, appointed in 2011 by Florida Governor Rick Scott.

Mr. Rollins has spoken and testified on catastrophe management and property lines ratemaking topics to the U.S. Congress, several state legislatures, regulators, rating agencies, insurance leaders, academics and the media. He has helped build coalitions of senior elected officials and stakeholder groups to effect public policy changes in Florida property insurance. He also has wide-ranging technical expertise, including personal and commercial lines ratemaking, catastrophe modeling, wind loss mitigation, hazard risk portfolio optimization, reinsurance design, and loss and expense reserving for insurers and self-insurers. He has authored several prize-winning papers in the journals of the Casualty Actuarial Society.

In addition to qualification as a Fellow of the Casualty Actuarial Society (FCAS) and Member of the American Academy of Actuaries (MAAA), Mr. Rollins holds a B.A. in mathematics from Duke University and an M.A. in economics from the University of Florida. A fourth-generation Floridian, he resides in the Gainesville area with his wife and children.