AFFORDABLE HOMEOWNERS INSURANCE COMMISSION
Monday, December 12th, 2011
9:00 A.M.

Attendees

Judge Tim Russell (Chair)
Commissioner Julie Magee
Commissioner Jim Ridling
Senator Ben Brooks
Representative Joe Faust
Representative Steve McMillan
Representative David Sessions
Don Price
Michelle Kurtz
Sid Belcher
Carl Schneider
Steve Simkins
Geoff Plott
Elizabeth Huntley
Jim Higdon
Joe Ruffer
Rux Bentley
Joe Demos
John Caylor

Opening Remarks

Judge Tim Russell, Chairman of the Affordable Homeowners Insurance Commission (AHIC), called the meeting to order and issued opening remarks. After opening remarks, a prayer by Michelle Kurtz, and the reciting of the Pledge of Allegiance by Joe Demos, Judge Russell thanked the host, Danny Cooper of the Alabama Realtors Association, for making their facilities available and welcomed the Commission. Judge Russell informed the Commission that Governor Bentley would be stopping by to show his appreciation to the Commission for their hard work. Russell then thanked the Agenda Committee and Renee Carter for organizing the presenters.

Catastrophe Models

Presenter: Lori Medders, PhD
Florida State University

Medders has a history in modeling hurricane risk, the financing of it, and the economics around catastrophe modeling. Medders also serves on the Lost Methodology Commission in Florida.

Medders pointed out that a lot of the work around risk modeling began shortly after Hurricane Andrew. There was a lack of coordination and continuity so the Florida Legislature set up the Florida Catastrophic Storm Risk Management Center to coordinate among those working on the problem from different viewpoints. The Center is now a point of reference for politicians, regulators, consumers, and other stake holders.

<u>Nature of Models</u>

Medders told the Commission that there is no set way the models have to be used by insurance companies. She also said that because of the different sciences involved, there are varying results. She further went on to say that every answer is inaccurate and the process by which the results are obtained is what is judged. Medders provided an example of some models so the Commission could see that the results did vary but were within a certain range from each other. Joe Demos asked how the modelers did versus actual events. Medders acknowledged they could do badly but it depends on whether they're compared to short-term or long-term models. Demos then inquired about a timeline associated with the models. Medders informed the Commission the models as presented were long-term views and were not intended to be accurate in a single year.

Karen Clark commented that outliers exist past a "reasonable range," and asked Medders what she considered a reasonable from a statistical point of view. Medders answered three standard deviations from the norm. Clark pointed out the outliers existed closer to four standard deviations from the norm.

The range is much wider the more localized you get in modeling. This is because you're more likely to be wrong than you are to be correct. This can be a problem since some rating territories are broken down to the zip code. Clark said it's a similar problem when you're trying to use long-term models to price something right now. There's too much volatility involved.

Frequency Models

Take information from statistics, meteorology, wind fields, geographical friction, and other sciences to see how certain locations would be affected by different storm intensities. These models try to get a sense of vulnerability curves and what the damage functions could be and the loss costs associated with them. This actuarial information is passed along to insurance companies who determine the best way to use it in determining their prices.

Catastrophe Models began to be used in Florida shortly after Hurricane Andrew. Hurricane models are advantageous because they're specific to peril, generate loss costs from actual or experimental data, ease aggregation, and allows for geo-coding.

Catastrophe models a more scientific approach than traditional actuarial methods, but has been considered controversial due to the nature of the models. Because of the controversial results the Florida Legislature created the Florida Commission on Hurricane Loss Projection Methodology. This commission approves the models used by insurers to set their rates. The insurer's rate making is subject to its specific company data and company specific factors. The Florida Office of Insurance Regulation must still approve any rate before they're passed along to the consumers. The Commission is composed of eleven experts to provide the most actuarially sophisticated guidelines and standards for the projection of hurricane loss.

Insurers must use the models as they are presented. The models cannot be modified without the Commission's approval. The Florida Hurricane Catastrophe Fund is in the business of reimbursing premiums for the insurers so they don't deal directly with the homeowners, therefore their ratings are done differently.

Medders stated that since the Commission was created the models have been found to be accurate and reliable. Karen Clark spoke up to ask Ms. Medders if the Commission believed the term "accurate" should be used since the results from models are not very accurate. Medders responded by saying the models are done in an accurate way and that process accuracy is the most important factor when determining if a model is credible. Clark reiterated that she does not think the term "accurate "should be used when describing models. Medders said she would bring the suggestion up to the Commission.

Medders went on to say the purpose of modeling is to provide standards and guidelines to the modelers so they can continue to evolve and provide further insights into property damage and insurance implications. These models are no longer considered a "Black Box," the Commission has access to everything. The professional staff details every step of the process taken by modelers and Commission members may request greater access to the process.

The Commission meets on average 10 times a year and publishes a biannual report of their findings. There are currently five acceptable models. All the Commission's documentation is available at

www.sbafla.com/methodology , except for proprietary information. That information is recorded in case legal disclosure is required, but is not made readily available to the public.

Modeling Organizations

- Air Worldwide Corp.
- Applied Research Associates, Inc.
- E.W. Blanch Company
- EQECAT, Inc.
- Florida Public Hurricane Loss Model
- Risk Management Solutions, Inc.
- Tillinghast-Towers Perrin

The RMS U.S. Hurricane Model Version 11
Presented by Matthew Nielsen

Mr. Nielsen said risk modeling began because there was insufficient claims data and the market needed a better way to understand risk.

RMS was founded in 1988. Today the company has over 1,000 employees; 45% of which have advanced degrees and roughly 100 employees have PhDs. RMS invested $150 million in research and development over the past 12 years, 40% coming from research and development. RMS normally updates its information about once a year.

The market uses RMS models for portfolio management, risk transfer, and underwriting. Individual clients use the information by applying the findings as they relate to their local markets. These users input their books of business and create a results database. It's up to the individual users to determine the risk management elements. Those elements include: exposure, size of loss that can be experienced, what can be done to control risk, and the likelihood of different types of events and losses.

Nielsen told the Commission that historical experience is insufficient when determining risk. He cited the market before Hurricane Andrew and post Hurricane Andrew. Immediately after Hurricane Andrew, the market experienced $17B in claims, 11 insurers went bankrupt, South Florida's rates increased by 300%; more than 1 million Floridians non-renewed their policies. All of these factors led to the emergence of a new generation of technical reinsurers that was founded on modeling. In contrast, during the hurricane seasons of 2004 and 2005, insured losses totaled $70B but only one insurer went bankrupt after the hurricane season of 2004. However, some flaws in the system were exposed. Katrina revealed ambiguity and complacency in flood coverage and payouts. The National Flood Insurance Program, which does not model catastrophe exposure, became technically bankrupt and borrowed $23B from the federal government.

Nielsen told the Commission historical averages are often volatile and do not help predict future catastrophes. They do, however, give a better sense of what might happen. He cited the tornado super outbreak from 2011. When that data was added to the model the tail losses were increased by 100%.

The framework for a model is composed of a stochastic event component, a hazard model, a vulnerability model and a financial model, and those components are designed to mimic the process of calculating hurricane risk to an insurer's portfolio.

Currently RMS's version 11 has $18B more claims data, 10 times more surge and wind damage data, the power to compute numerical wind models and high-resolution storm surge models, and $100 B in test data, more historical comparisons, and greater peer-to-peer review. Also, the new model has components to track inland filling, landfall frequency, roughness, vulnerability, surge, and post event loss amplification.

Nielsen closed by saying this is RMS's most extensive version yet, but there is no one right answer or analytic. All the data is connected and needs to be captured and computed to have the best model available.

Catastrophe Models
Presented by Karen Clark

Karen Clark established Karen Clark & Company in 2007 to better understand catastrophe risk. Clark believes that models should be used with other tools to better understand catastrophe risk. She believes models only give rough estimates of what could happen and due to their uncertainty have great volatility from model to model. This volatility can be very disruptive to business.

Clark also believes that models have credibility issues. She thinks a model is a one size fits all approach to the problem of understanding risk and the models should be more customizable to a geographical area. Clark has problems with the calculations used to generate data, namely that the methods used to achieve those calculations are not transparent. Clark believes the timeliness used to correct problems within a model is not adequate. For example, some models in Florida had problems with *inland filling*. Clark said reinsurance markets old data from models were not accurate and made adjustments to a level they determined to be accurate.

Clark said there is a major problem with understanding the uncertainty associated with hurricane models. Catastrophe risk is the largest component of a premium and the data used to help determine the risk is often insufficient.

Clark added, the U.S. accounts for half of all the potential catastrophe losses in the world, and Florida has roughly a quarter of all the world's risk. Due to the risk involved, Florida also has the most data available to modelers. The additional data helps reduce the noise in the system. Noise, as Clark describes it, is volatility caused by unknown factors. Clark pointed out the more localized modelers try to become, the higher the resolution involved in modeling and the less data is available to them. This results in greater volatility. Referencing back to the modeler's inland filling problem for Florida, Clark said the change in rates went up around 200% for Florida's inland counties. She believes this was an eye opening experience for the industry.

Further highlighting some problems with using models, Clark identified the relative risk associated with models. She pointed out that some results often represent outliers, which happens because there are often very little data points. Clark believes that a lot of the new research is leading to new findings, with no new data underlying the results. These new results lead to higher prices, but aren't any more reliable or accurate than previous models. The new and differing methods by modelers, lack of a substantial number of new events, and subjective opinions of scientists, lead Cat models to be poor tools to determine risk when used on their own.

Clark continued, characteristic events provide real data and create foot prints (storm tracks) that are transparent. The data from these events are not radically different from what modelers use.

The event data is just used in a different way. Clark believes the transparency is welcomed by the insurance companies and consumers by providing more stability than CAT models. Clark reiterated that she doesn't believe characteristic events should be used without models (based off of stochastic data points). They should be used as another tool to help insurance companies and consumers. Companies can take the historical data and benchmark accordingly.

In closing, Clark restated that no model or scientist can provide a correct or accurate model and loss estimates can be very wrong. This is troubling since they're the primary component in rate making.

Carl Schneider asked what the Commission can do to meet its charge of increasing availability in making home owners insurance to the people of Alabama. Clark said understanding the true risk is the most important factor and, in order to better understand the risk to Alabama the Commission should look at it in multiple ways. Schneider then asked what can be done to reduce the risks. Clark answered, "Establish better building codes, provide proper enforcement, and foster better mitigation activities."

Don Price asked if insurance companies can use models in a way similar to characteristic events. Clark said the modelers may provide that information but not necessarily. Steve Simkins then asked how boundary lines affect a floating model as previously described. Clark said the method as she described would float a historical storm across 10 mile increments. Schneider asked if the models could be used to reduce cost and drive policy changes. Clark said she thinks the models could be used to help determine "what if" scenarios and possibly be a tool in prioritizing mitigation efforts.

Michelle Kurtz asked if some models are not widely used by the industry. Clark said in many cases tornado models are not used very effectively since there aren't enough data points to make them reliable. Clark added that the industry tends to use historical data to account for risk from tornados. Kurtz also asked if Alabama's premium aggregate data would help to determine if a model is accurate if it was made available. Clark said it would but a lot of data would be needed, maybe going back decades.

Before the Commission delved into the afternoon's agenda, Governor Robert Bentley thanked the Commission for their hard work and dedication to ensuring that Alabama's homeowners' concerns are being addressed. He reiterated his faith in the Commission and said he looks forward to any possible solutions offered by the Commission.

Alabama Homeowners Insurance: ***History and Trends for Catastrophic Loss and Impacts on Profitability***
Dr. Robert Hartwig

Dr. Hartwig's presentation focused on Catastrophe Loss Analysis for Alabama's insurance markets. Hartwig discussed the total losses related to homeowners insurance lines, claims values versus claims counts, an analysis of the 2011 catastrophe claims, and an analysis from 1998-2011. Hartwig focused on the tornado super outbreak from April 27th, Alabama's coastal exposure problem, the profitability of Alabama's insurance markets, how Alabama's insurance markets have impacted the global markets, an overview of the reinsurance market, and property/casualty insurance markets & catastrophic loss.

Specifically, Hartwig said from 1998-2011 Alabama had 1.1 million claims and totaled roughly $8.4B. Of the $8.4B, $5.6B and 73% of the total claims paid were for home, condo, and renters'

policies. Hartwig said 2011 was the worst year for catastrophe losses in Alabama's history. Total losses in 2011 were $3.2B, which came from nearly 175,000 claims. Those losses exceeded premiums paid by more than $400M in 2011. Alabama's average homeowners claim reached a record $15,989 in 2011.

Hartwig said Alabama has a history of being an unprofitable state in the insurance market. From 1990-2009 Alabama's return on net worth -5.6%, the return on net worth from 2000-2009 averaged -7.9%, making Alabama the 43th out of 50th most profitable states in the US. Hartwig believes that Alabama will fall even farther once the data from the April tornado outbreak is calculated. To put it into perspective, Hartwig said, once claims from the April tornados are aggregated, the storms are the 5th largest loss is US history.

Mitigation and Building Codes
Dr. Peter Vickery & Fred Malik

The presentation focused on the development of the ASCE Design Wind Speed Map and the effect of building codes on reducing losses. He said the wind speeds have been adopted by the International Residential Code. Insurance claims have illustrated that buildings built to at least the 2002 Florida Building Code perform better than their counterparts. Vickery also said the main driver of loss to homes was inadequate roof covers.

ASCE's new hurricane simulation model was completed in 2006 and includes wind fields, inland filling data, pressure-wind relationships, hurricane tracks and pressures.

The results were lower design wind speeds. The wind model was subjected to peer reviewed engineering and meteorological literature. The results were found to be credible over both land and water. The lower wind speeds were found to be credible and were found by using a more accurate wind-pressure relationship, a Holland B parameter.

<u>Wind map Summary</u>
New data and new analysis typically shows that ASCE's hurricane and wind speeds tend to be conservative. Also, the new windborne debris region resulted in less area subject to windborne debris design criteria.

<u>Effects of Building Codes on Losses</u>
While there are similarities in the design winds from the last 40 years, many regions have dramatic differences. Many single family homes were generally ignored until the 90s. Failure for winds for engineered components is significantly higher than design wind speed. Vickery believes better design winds for buildings is not warranted until all the strength of the non-engineered components are more balanced with the engineered components. Those components include: roof deck, roof shape, roof covering, roof framing, building height, doors, windows, and roof-to-wall connections.

Closing remarks
Judge Russell discussed the meeting date of the next meeting. Due to the holiday season and Dr. Martin Luther King, Jr. Memorial Day, Judge Russell and the rest of the Commission agreed the next meeting date should be January 17th (which has since been changed to January 30th). The first part of the meeting will feature presentations by Don Graham, Amy Bach, and Dr. Bob Hunter. Bach and Hunter will be teleconferenced to the Commission. The second part of the day will consist of

dialogue and discussion on ideas and possible solutions. Other days to discuss possible solutions will be established as they are needed.

In order to help facilitate the discussion on possible solutions, Judge Russell said he has reached out to Dr. David Mathews and the Kettering Foundation. Two possible moderators are Dr. Muse, former President of Auburn University and Mr. William Winters, former Governor of Mississippi. Michelle Kurtz told the Commission that she had a conversation with the Executive Director of the foundation and said the board of directors might be willing to waive any fees that might occur. Judge Russell said he would follow up with Kurtz and they could contact the foundation together.

John Caylor informed the Commission that Dr. Pieplow will be made available to assist the Commission in the future.

Judge Russell told the Commission that other stakeholders would be brought in to help in presenting solutions. Those stakeholders are: realtors, representatives from the mortgage industry, appraisers, architects, homebuilders, and title companies. Suggestions for participants representing those interests are welcome.

Joe Demos asked if lunch could be catered during the next meeting. The Commission agreed and asked Renee Carter to assist in organizing the lunch.

Judge Russell was pleased to inform the Commission that the Baldwin County Commission has set aside $100 million to establish an insurance mechanism to help local residents.

Representative Steve McMillan was asked about possible legislative measures that very well could be introduced at the beginning of the 2012 legislative session. He said there are currently three measures that are known to him. Kurtz asked if those measures have would be endorsed by the Commission. McMillan said it is his hope that the Commission would agree to endorse the measures. The Legislative Subcommittee was then expanded by including Don Price and Michelle Kurtz to the original subcommittee.

Don Price inquired about the agenda for the next meeting. The Agenda Subcommittee said the first part of the meeting would pertain to consumer issues. She added the Agenda Subcommittee would like feedback to address the problems facing Alabama's homeowners as defined by the Commission

Before closing Judge Russell recognized Mississippi Representative, Scott DeLano and thanked him for joining.

Judge Russell adjourned the meeting at 5:00 pm.