

## FLORIDA COMMISSION ON HURRICANE LOSS PROJECTION METHODOLOGY

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Vacant  
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May 23, 2017

Commissioner David Altmaier  
Florida Office of Insurance Regulation  
200 East Gaines Street  
Tallahassee, Florida 32399-0305

Dear Commissioner Altmaier:

The Florida Commission on Hurricane Loss Projection Methodology (Commission) met on May 10-12, 2017, to review models for acceptability under the current 2015 standards. The following is provided in further response to the issues raised in your letter of September 28, 2016.

1. The Commission asked each modeling organization to explain, in the public portions of the meetings, the variation in modeled loss costs for Monroe County.

The modeling organizations identified the following contributors to the variation: differences in meteorological input parameters and analyses, differences in evaluation of vulnerability of structures, applicability of different building codes, impact of variations in mitigation, differences in exposure distribution, and differences in definition and analysis of coastal hazards.

Although the data referred to in your letter was generated by models found acceptable under the 2013 standards, the response of the modeling organizations as indicated above applies as well to the current acceptability process, which is based on the 2015 standards. I intend to raise with the Commission the issue of consistency, as you have framed it, in the course of our deliberations on the 2017 standards, which are scheduled to be adopted by November 1, 2017.

2. The Commission reviewed the model results by hurricane deductible as per Standard A-5, Policy Conditions, and as given in Form A-4, Output Ranges and Form A-6, Logical Relationship to Risk (Trade Secret Item). The Commission will revisit this standard in the course of our deliberations on the 2017 standards.
3. During the May 10-12, 2017 model reviews, each modeling organization demonstrated that the modeled loss cost projections and probable maximum loss levels did not include any explicit provisions for hurricane storm surge losses as per Standard A-4, Modeled Loss Cost and Probable Maximum Loss Considerations. Moreover, the modeling organizations described the steps taken to exclude storm surge and flood losses.
4. The Commission reviewed Form S-4, Validation Comparisons, which compared modeled and actual results for five hurricanes within the Base Hurricane Storm Set. During their on-site review of trade secret information, the Professional Team, accompanied by several Commission members, also reviewed numerous comparisons in addition to those provided in Form S-4. All models found acceptable by the Commission demonstrated the ability to reasonably replicate past events for hurricane frequency and severity in an unbiased manner.

The Commission was created by the Florida Legislature as “a panel of experts to provide the most actuarially sophisticated guidelines and standards for projection of hurricane losses possible, given the current state of actuarial science.” The Commission adopts standards and guidelines relating to the accuracy and reliability of hurricane loss models, and it also reviews models to determine whether they are accurate and reliable under these adopted standards and guidelines.

The Commission is not tasked with identifying the “best” model or with comparing the results of different models. Instead, as required by law, the Commission considers “any actuarial methods, principles, standards, models, or output ranges that have the potential for improving the accuracy of or reliability of the hurricane loss projections used in residential property insurance rate filings,” and “any actuarial methods, principles, standards, or models that have the potential for improving the accuracy of or reliability of projecting probable maximum loss levels.” Based on these considerations, as required by law, the Commission adopts “findings as to the accuracy or reliability of particular methods, principles, standards, or models” and revises standards biennially.

The Commission does not enforce the convergence of the results of different models as that would be an impossible task given the inherent uncertainties in the modeling process. Each modeling organization uses data, methods, and technology that are unique to its model. Variations are inevitable. All models that meet all of the standards are deemed acceptable. As a Commission we remain vigilant in fulfilling our statutory mandate to use a review process that ensures that all models used in Florida meet rigorous modeling standards.

On behalf of the Commission,



Lorilee Medders, Ph.D.

Chair

Florida Commission on Hurricane Loss Projection Methodology

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Professional Structural Engineer

October 5, 2016

Commissioner David Altmaier  
Florida Office of Insurance Regulation  
200 East Gaines Street  
Tallahassee, Florida 32399-0305

Dear Commissioner Altmaier:

Thank you for your September 28, 2016 letter requesting that the Florida Commission on Hurricane Loss Projection Methodology (Commission) address certain issues relating to Monroe County.

As Commission Chair, I intend to raise the issues in your letter with the full Commission in the course of our review of models under the current (2015) standards and our deliberations on the 2017 standards. Please treat the following comments as preliminary, pending consideration by the Commission.

1. You requested that the Commission research the “wide variation in model results” for Monroe County using both the current (2015) standards and the standards that will be adopted during calendar year 2017. You also requested that the Commission “respond to the question of whether, in developing new modeling review standards in 2017, standards can be put in place to increase consistency among models.”

I intend to raise with the Commission the issue of consistency, as you have framed it, in the course of our deliberations on the 2017 standards, which are scheduled to be adopted by November 1, 2017. All 33 of the standards—general, meteorological, statistical, vulnerability, actuarial, and computer—are adopted for the purpose of enabling the Commission to

Commissioner David Altmaier

October 5, 2016

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independently verify the accuracy and reliability of each model. As always, testimony from the public will also be invited during the deliberations on the 2017 standards.

2. You requested that “model results by hurricane deductible, particularly concerning Monroe County, be reviewed both under current model review standards and in the development of future model review standards to provide more accurate estimates of hurricane loss cost and probable maximum loss.”

The Commission will carefully review each model to determine whether it meets each of the standards adopted in 2015. As with item 1, I intend to raise your concerns with the Commission in the course of deliberations on the 2017 standards.

3. You requested that “model treatment of wind vs water (surge) be reviewed to validate that models provide an accurate result for projected wind losses in Monroe County, consistent with Commission standards that **only** wind losses are to be estimated by an accepted model and not any water or surge damage.”

You have highlighted an issue that has been considered and addressed by the Commission in its standards for many years, not merely for Monroe County, but for all counties. I am confident that, as in past years, we will conduct a rigorous review of all models to assure that the relevant standards regarding exclusion of flood or hurricane storm surge losses are met.

4. You have requested a “description of the review process that compares actual storm results with model results, including whether or not this is done for additional storms other than those shown in the Commission Statement of Activities.”

Form S-4, Validation Comparisons, which appears at page 135 of the 2015 Report of Activities, requires the modeler to compare modeled results and actual results for five hurricanes within the Base Hurricane Storm Set. During the Commission’s on-site review of models, the Commission professional team obtains additional comparisons, including comparisons for storms beyond those submitted in Form S-4, which is just one part of the statistical validation process.

The issues you have raised are important to the Commission. Let me assure you that I, along with every other member of the Commission, remain committed to fulfilling our statutory mission using a review process that ensures that all models used in Florida meet rigorous hurricane modeling standards.

Sincerely,



Lorilee Medders

Chair

Florida Commission on Hurricane Loss Projection Methodology

RECEIVED SEP 30 2016



## OFFICE OF INSURANCE REGULATION

DAVID ALTMAIER  
COMMISSIONER

September 28, 2016

Lorilee Medders, Ph.D., Chair  
Florida Commission on Hurricane Loss Projection Methodology  
Post Office Box 13300  
1801 Hermitage Boulevard, Suite 100  
Tallahassee, Florida 32308

RE: Monroe County Hurricane Loss Projection Model Results

Dear Dr. Medders:

The Office of Insurance Regulation (Office) recently established the 2017 personal residential insurance rates for Citizens Property Insurance Corporation (Citizens). In the course of the Office's review of this filing and at the August 18, 2016 public hearing, questions arose about the diverging results of the Hurricane Loss Projection Models in forecasting the proposed rates specific to Monroe County. This would include the Florida Public Hurricane Model and three other models (AIR, RMS, and EQE). While the focus of the instant inquiry relates to Monroe County results, similar significant anomalies exist for other counties such as Levy, Lake, Osceola and Hernando.

To document and identify the reasons for these divergent results in Monroe County, the Office respectfully requests the assistance of the Florida Commission on Hurricane Loss Projection Methodology (Commission) in this matter.

The Office requests that the Commission address the following issues:

1. Results from these models are very inconsistent for Monroe County. See the attached exhibit which shows that for Territory 90, wind-only in Monroe, the wind indication varies from an 8.6% decrease to a 77.1% increase. The Office requests that the cause for this wide variation in model results be researched using current Commission standards and that the Commission respond to the question of whether, in developing new modeling review standards in 2017, standards can be put in place to increase consistency among models.
2. The Office requests that model results by hurricane deductible, particularly concerning Monroe County, be reviewed both under current model review standards and in the development of future model review standards to provide more accurate estimates of hurricane loss cost and probable maximum loss.

...

DAVID ALTMAIER • COMMISSIONER  
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Lorilee Medders, Ph.D., Chair

September 28, 2016

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3. The Office requests that model treatment of wind vs water (surge) be reviewed to validate that models provide an accurate result for projected wind losses in Monroe County, consistent with Commission standards that **only** wind losses are to be estimated by an accepted model and not any water or surge damage.
4. The Office requests a description of the review process that compares actual storm results with model results, including whether or not this is done for additional storms other than those shown in the Commission Statement of Activities.

We respectfully request that the Commission investigate and provide written responses to these issues as soon as possible.

Thank you for your assistance and consideration of this request. Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "David Altmaier".

David Altmaier  
Commissioner