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August 15, 2017

Lori Medders, Chair Florida Commission on Hurricane Loss Projection Methodology c/o Donna Sirmons Florida State Board of Administration 1801 Hermitage Boulevard, Suite 100 Tallahassee, FL 32308

Re: Notification of Type I Error.

Dear Dr. Medders:

We would like to submit for the Commission's consideration an updated model, RiskLink 17.0.1 (Build 1825), which contains model changes that may affect the acceptability of our previous model, RiskLink 17.0 (Build 1825).

In accordance with the Process for Determining the Acceptability of a Computer Simulation Model, Section VI.F, (**Discovery of Differences in a Model after a Model has been Determined to be Acceptable by the Commission**) in the November 1, 2015 Report of Activities, we have prepared the following forms for the Commission's review. These are provided for the currently accepted model, the proposed updated/revised version of the model software and the comparison between the two versions demonstrating no change.

- Form A-1 (Zero Deductible Personal Residential Loss Costs by ZIP Code)
- Form A-4B (Output Ranges, 2012 FHCF Exposure Data)
- Form A-8 (Probable Maximum Loss for Florida)
- Form S-5 (Average Annual Statewide Loss Costs Historical versus Modeled)

In addition, revised Appendices E and F are also enclosed, which show RiskLink 17.0.1 (indicating the revised version) on relevant screens and reports.

The forms have been provided for both the current model and the revised version of the model. A percentage change comparison demonstrates that there is no change in output between the two versions.

# Nature of the Software Updates/Revisions

RMS has determined that the following item, addressed in RiskLink 17.0.1 (Build 1825), constitutes a Type I error:

• The "Bermuda-style roof" option of the Roof Covering secondary modifier erroneously had no impact on modeled losses in version 17.0 of the North Atlantic Hurricane Models. RMS modelers have only seen this specific roof covering in the Caribbean; it is not expected that a residential structure in Florida would feature a Bermuda-style roof. This option exists in the U.S. model for consistency across all modeled regions. Resolution of this item does not impact modeled loss costs in any forms, as this option does not exist in the 2012 FCHF exposure data; however, it is feasible that an individual location's loss cost could change in RiskLink 17.0.1 if the

"Bermuda-style roof" option were to be used. As mentioned above, RMS has not seen this roof type anywhere in Florida, or elsewhere in the U.S.

The following items, addressed in RiskLink 17.0.1 (Build 1825), have no impact on modeled wind losses in Florida:

- Exceedance Probability analyses on the same exposure may sporadically generate
  inconsistent results in version 17.0, limited to situations where exposures are not
  associated with a windstorm policy. RMS observes that the frequency of this issue is
  low and does not occur consistently.
- The Ground-Level Equipment secondary modifier has no impact on losses in version 17.0 of the North Atlantic Hurricane Models. This secondary modifier only impacts storm surge-related losses; wind-related losses are unaffected.
- Certain North Atlantic Hurricane Models historic events show mismatches in U.S. losses between historic and stochastic variants; however, after extensive testing, RMS modelers confirmed that this item does not impact historical events affecting Florida.

## The Effect to the Underlying Acceptable Model

Logic within the model has been revised as described in the four items above.

## The Effect on the Model Results

The forms in the submission (as demonstrated), as well as extensive internal testing, show no difference in Florida model results. It is theoretically possible that conditions may exist that could alter results in specific locations under specific circumstances, as described above. We have not seen any changes or problems, heard of any related to these issues, and do not expect changes in results any time in the future under realistic conditions.

Thank you for your consideration.

Sincerely,

Tom Sabbatelli

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