

**Professional Team Report to the
Florida Commission on Hurricane Loss Projection Methodology**

**Applied Research Associates, Inc. (ARA)
Review of Error in HurLoss 6.0.a
April 13, 2015**

During the April 13, 2015, additional verification review, the Professional Team reviewed in detail the ARA notification and correction of an error in HurLoss version 6.0.a. The following individuals participated in the review:

ARA

Francis M. Lavelle, Ph.D., P.E., Vice President
Peter J. Vickery, Ph.D., P.E., Principal Engineer

Professional Team

Jenni Evans, Ph.D., Meteorologist
Paul Fishwick, Ph.D., Computer Scientist
Mark Johnson, Ph.D., Statistician, Team Leader
Marty Simons, ACAS, Actuary
Masoud Zadeh, Ph.D., P.E., Structural Engineer
Donna Sirmons, Staff

On January 23, 2015 ARA notified the Commission of “an error in HurLoss version 6.0.a, which was found acceptable by the Commission in June 2013 under the 2011 standards.” ARA stated they “discovered a coding error in a software routine used in the computation of the vertically averaged windfield. This routine accesses a large set of data files that contain windfield solutions for hurricanes translating over water and over land. The error caused the wrong data files to be accessed for the over land case.” ARA indicated “that correcting this issue will result in a Type III difference, as defined in Section VI.F of the 2013 Report of Activities.”

During the February 19, 2015, Commission meeting, Chair Medders reported the acceptability of ARA HurLoss 6.0.a has been suspended until the Commission completes its investigation and review of the Type III differences. Chair Medders noted that the Professional Team would review the updated forms and revisions to the model during the additional verification review on April 13, 2015.

On February 19, 2015, ARA submitted the following revised forms for HurLoss version 6.0.b under the 2011 standards correcting the error in HurLoss version 6.0.a:

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

On April 13, 2015, ARA provided an explanation of the coding error in HurLoss 6.0.a and HurLoss 7.0 and the subsequent actions taken to preclude this error from recurring. Discussion centered around the root cause, testing and updating of the software routine, and updated hurricane event sets provided to clients. The modified coding and QA processes for windfield calculations were reviewed.

An additional error was detected in review of Form S-4 which also traced to HurLoss 6.0.b. ARA will submit a corrected Form S-4 with a letter of explanation to the Commission in accordance with the Acceptability Process.

After a thorough and comprehensive review of the coding error in the probabilistic windfield model, the corrective actions implemented, and relevant Forms A-1, A-4, A-8, and S-5, the Professional Team verifies that HurLoss 6.0.b meets the 2011 standards.