

**Florida Commission on Hurricane Loss Projection Methodology  
2015 Standards**

**Florida Public Hurricane Loss Model**

**Florida International University**

**Professional Team On-Site Review: March 13-15, 2017**

The purpose of the pre-visit letter is to outline specific issues unique to the modeler's submission, and to identify lines of inquiry to be followed during the on-site review to allow adequate preparation by the modeler. Aside from due diligence with respect to the full submission, various questions that the Professional Team is certain to ask the modeler during the on-site review are provided in this letter. This letter does not preclude the Professional Team from asking for additional information during the on-site review that is not given below or discussed during an upcoming conference call that will be held if requested by the modeler. One goal of the potential conference call is to address modeler questions related to this letter or other matters pertaining to the on-site review. The overall intent is to expedite the on-site review and to avoid last minute preparations that could just as easily have been handled earlier.

Some of this material may have been shown or may have been available on a previous visit by the Professional Team. The Professional Team will also be considering material in response to deficiencies and issues designated by the Florida Commission on Hurricane Loss Projection Methodology (Commission).

It is important that all material prepared for presentation during the on-site review be presented using a medium that is readable by all members of the Professional Team simultaneously.

The on-site schedule is tentatively planned to proceed in the following sequence: (1) presentation by the modeler of new or extensively updated material related to the model; (2) section by section review commencing within each section with pre-visit letter responses; (3) responses to new or significantly changed standards in the *2015 Report of Activities*, and (4) responses to the audit items for each standard in the *Report of Activities*.

Provide an explanation for each loss cost change of more than 5% from the loss costs produced in the previous submission using the 2012 Florida Hurricane Catastrophe Fund (FHCF) exposure data to the corresponding loss costs produced in the current submission using the 2012 FHCF exposure data.

If changes have been made in any part of the model or the modeling process from the descriptions provided in the original 2015 submission, provide the Professional Team with a complete and detailed description of those changes, the reasons for the changes (e.g., an error was discovered), and all revised forms where any output changed.

Refer to the On-Site Review section of the *Report of Activities as of November 1, 2015* for more details on materials to be presented to the Professional Team. Please pay particular attention to the requirements under Presentation of Materials on pages 73-74. In addition, please provide six printed copies of the tables required in Standard CI-1, Audit 6.

For your information, the Professional Team will arrive in business casual attire.

The pre-visit comments are grouped by standards sections.

### **GENERAL STANDARDS:**

1. G-1, Disclosure 2, page 66: Explain the stated constraint in the penultimate paragraph “net loss is  $\geq 0$  and  $\leq$  limit – deductible.”
2. G-1, Disclosure 5.C, Figure 21, page 110: Verify that the “extreme” counties correspond to the biggest changes in ZIP Code Centroids. For example, compute the change in centroid location distance and match with the largest changes in the figure (e.g., Washington, Monroe, Union, Bradford counties).
3. G-1, Disclosure 5.C, Figure 22, page 111: Explain why Okaloosa and Nassau counties are the most affected. Explain the difference in values between Hamilton and Suwannee counties.
4. G-1, Disclosure 5.C, Figure 23, page 112: Explain what is driving the differences seen in the panhandle (increases) versus the southeast coast (decreases).
5. G-1, Disclosure 5.C, Figure 24, page 113: Explain how Alachua County (0.01 to 10.00) avoided a 20% increase compared to its neighboring counties.
6. G-2, Disclosure 2.B, page 121: Provide resumes of new personnel.
7. G-3, Disclosure 4, page 126: Explain the reasons for calculating population-weighted roughness. Explain what is meant by distance to coast for each incoming wind direction.
8. G-3, Disclosure 4, page 126: Explain the Wind-borne Debris Region ZIP Codes.

### **METEOROLOGICAL STANDARDS:**

9. M-1, page 129: Changes in the Base Hurricane Storm Set will be reviewed.
10. M-6, page 153: Methods (including any software) used in verifying logical relationships among hurricane characteristics will be reviewed.
11. Form M-3, pages 486-487: The wind-pressure relation for weaker storms (higher pressure) will be reviewed.

### **STATISTICAL STANDARDS:**

12. S-5, Disclosure 1, page 182: Company H, Hurricane Dennis, Modeled Loss of \$2,142,032.00 is the only modeled loss that did not change from Disclosure 1 in the previous submission. Tracing of how the values in Table 14 were populated will be reviewed.
13. Form S-5, page 190: Explain the differences between the Historical values given in Form S-5 and Form A-2.

14. Form S-5, page 190: Explain the differences between the Modeled values given in Form S-5 and Form S-2.

**VULNERABILITY STANDARDS:**

15. V-2, Disclosure 1, page 252: Explain, in spite of changes in the rain model, why there is no change in the contents vulnerability component.
16. V-2, Disclosure 1, page 252: Explain, in spite of changes in the rain model, why there is no change in the time element vulnerability component.
17. V-3, Disclosure 1, page 261: Discuss the secondary options/mitigation measures ASTM D3161 Class F and ASTM D7158 Class G and H shingles in the model.

**ACTUARIAL STANDARDS:**

18. A-1, Disclosure 4, pages 281 & 285: Discuss how item (a) applies to the FHCF exposure data (“hlpm2012c.exe”), which includes multiple policies per line.
19. A-1, Disclosure 5, page 289: Provide the model output report for the run of the FHCF exposure data (“hlpm2012c.exe”).
20. A-6, Disclosure 14, page 310: Provide an example illustrating the effects of coinsurance on commercial residential loss costs.
21. Form A-1, Figures 96-98, pages 359-361: Identify ZIP Codes with larger than expected loss costs relative to their more coastal or southerly neighboring ZIP Codes (e.g., northwest Palm Beach County, middle of Broward County adjoining the large swamp land ZIP Code) and justify the results.
22. Form A-3, pages 368-387: Provide Form A-3 with the percentage of residential zero deductible losses rounded to four decimal places.
23. Form A-3, page 318: Provide Figure 83 with tracks.
24. Form A-4, 0% Deductible, page 389: Brevard County has a low manufactured homes loss cost value of 1.815. For this same ZIP Code, provide the frame owners loss cost value.
25. Form A-4, 0% Deductible, page 394: Manatee County has a low manufactured homes loss cost value of 1.927. For this same ZIP Code, provide the frame owners loss cost value.
26. Form A-4, 0% Deductible, page 394: Martin County has high masonry renters loss cost value of 4.179. For this same ZIP Code, provide the frame renters loss cost value.

27. Form A-4, 0% Deductible, pages 392: Provide details on the computation of the weighted average for commercial residential losses for Hardee County, having commercial residential exposures in two ZIP Codes (as evidenced from data developed from the aggregate residential exposure data in the file “hlpm2012c.exe”).
28. Form A-4, 0% Deductible, page 393: Lafayette County has masonry construction in two of its four ZIP Codes (32013 with 1 row, \$370,999 total insured value; 32066 with 33 rows, \$80,648,944 total insured value). Explain the averaging and weighting scheme used to arrive at the reported value, supplying additional digits as necessary.
29. Form A-4, 0% Deductible page 393: Consider Lafayette County for manufactured homes. Again two ZIP Codes only contain exposure with one ZIP Code dominating. Explain the averaging and weighting scheme used to arrive at the reported manufactured homes value, supplying additional digits as necessary.
30. Form A-4, pages 389-408: Explain the weights used to obtain the average output range by county. Use Monroe County as an example.
31. Form A-5, pages 321-328 & 410: Explain the significant extreme changes.
32. Form A-8, page 335: Explain the separation between the lines in Figure 95. Provide an expanded graph above \$120 billion.
33. Form A-8, pages 467-468: Provide the first and second moments of the Annual Aggregate and Annual Occurrence distributions underlying the tables. Also, provide the first and second moments of the frequency and severity distributions underlying the PMLs shown in Parts B and C.

#### **COMPUTER/INFORMATION STANDARDS:**

34. CI-1.B, page 337: Relate the primary binder table of contents with the response to Standard G-1, Disclosure 5 (pages 106-116) by demonstrating individual table item compliance with Computer/Information Standards CI-1 through CI-7.
35. CI-2, page 339: Provide requirements documentation that specifically relates to each model change identified in Standard G-1, Disclosure 5 (pages 106-116).
36. CI-5, pages 343-345: Provide complete and thorough verification procedures and output from the model changes identified in Standard G-1, Disclosure 5 (pages 106-116).
37. CI-6.D, page 346: Provide the model version history over the past 5 years, leading up to the version identified in the submission.