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December 17, 2015

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

Re: Request for Functional Equivalence of RiskLink 15.0.1 (Build 1625)

Dear Dr. Medders:

We are requesting functional equivalence of RiskLink 15.0.1 (Build 1625) to our currently acceptable model, RiskLink 15.0 (Build 1625). In accordance with the Process for Determining the Acceptability of a Computer Simulation Model, Section VI.G, (**Interim Software Updates after a Model has been Determined to be Acceptable by the Commission**) in the November 1, 2013 Report of Activities, we have prepared the following forms listed below 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 15.0.1 (indicating the revised version) on relevant screens and reports.

The forms have been provided for 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

The following items were addressed in RiskLink 15.0.1

- Windstorm Cause of Loss setting, captured at a location level, resets to the default value of Wind plus Surge. The potential for this only occurs when RiskLink 13.0 imported input files are upgraded to version 15.0 input files, which is not necessary but is possible.
- When exposure files are used within the model for multi-peril analyses, locations coded with values may randomly & incorrectly assume unlimited policy coverage and generate gross losses for a subset of events. Within the RiskLink software, "policy" limits are applied to a group of locations in aggregate. This is unlikely to occur in personal residential portfolios and is most often used with reinsurance structures.

- When running a multi-country analysis, the impact of secondary modifiers may be misapplied at some locations for some events on rare occasions, leading to incorrect results.
- Version 15.0.1 enhances U.S. street level geocoding to match the alphabetical spelling of street numbers as well as a broader range of pre- and post- street directionals and alternate names for major routes and highways.
- Version 15.0.1. enhances matching strategies for non-U.S. countries to reduce errors where locations previously received higher or coarser resolution geocoding than appropriate, in some cases driven by version 15.0 geocoder changes.

The Effect to the Underlying Acceptable Model

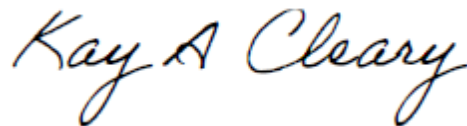
Logic within the model has been revised as described in the five items above.

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. We have neither seen any changes or problems nor heard of any related to these issues.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Kay A Cleary". The signature is written in a cursive, flowing style.

Kay A Cleary
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Kay.Cleary@rms.com
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850-368-4392 (mobile)

Friday, December 11, 2015

Version 15.0.1 (Build 1625)

Analysis Settings:

Analysis Name (ID) : All Locs(1)
RDM Database : FCHLPM_RDM
DLM Profile Name : FCHLPM Certified Hurricane Lo
Analysis Date : 12/11/2015
Perils : Wind Only
Region : North Atlantic (including Hawaii)
Analysis Mode : Distributed
Analysis Type : Exceedance Probability
Vulnerability Curves : Vulnerability - Default
Event Rate Set : 2015 Historical Event Rates
Storm Surge assumptions : None
 SFD : 0.00
 Low-Rise MFD and COM : 0.00
 Other : 0.00
Primary modifiers assumed 'Unknown' : None
All secondary modifiers assumed 'Unknown' : No
Scale Factors
 Building : 1.00
 Contents : 1.00
 BI Values : 1.00
'Unknown' deductibles assumed 2% : Yes
Local defenses ignored : No
All user entered Base Flood Elevation values reset to RMS Default : No

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

Exposure Data Summary Statistics:

Average Location Value	:	150,000.00
Average Location Limit	:	0.00
Average Location Deductible	:	0.00

Exposure Data Detail Statistics:

CONSTRUCTION QUALITY	# Locations	% of Locations	BASEMENT	# Locations	% of Locations
0 Unknown	4860	100.00	0 w/ Unknown Flood Protection	4860	100.00
ROOF COVERING	# Locations	% of Locations	ROOF GEOMETRY	# Locations	% of Locations
0 Unknown	4860	100.00	0 Unknown	4860	100.00
ROOF ANCHOR	# Locations	% of Locations	ROOF AGE	# Locations	% of Locations
0 Unknown	4860	100.00	0 Unknown	4860	100.00
ROOF EQUIPMENT HURRICANE BRACING	# Locations	% of Locations	FLASHING AND COPING QUALITY	# Locations	% of Locations
0 Unknown	4,860.00	100.00	0 Unknown	4,860.00	100.00
COMMERCIAL APPURTENANT STRUCTURES	# Locations	% of Locations	CLADDING TYPE	# Locations	% of Locations
0 Unknown	4860	100.00	0 Unknown	4860	100.00
ROOF SHEATHING ATTACHMENT	# Locations	% of Locations	FRAME-FOUNDATION CONNECTION	# Locations	% of Locations
0 Unknown	4860	100.00	0 Unknown	4860	100.00
RESIDENTIAL APPURTENANT STRUCTURES	# Locations	% of Locations	MEC./ ELEC. EQPT - GROUND	# Locations	% of Locations
0 Unknown	4860	100.00	0 Unknown	4860	100.00

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OPENING PROTECTION	# Locations	% of Locations
0 Unknown	4860	100.00

WS DETAIL VALID FLAG	# Locations	% of Locations	ADDRESS MATCH LEVEL	# Locations	% of Locations
1 Valid	4860	100.00	5 Postal Code	4860	100.00

NUMBER OF BUILDINGS	# Locations	% of Locations	NUMBER OF STORIES	# Locations	% of Locations
0 Unknown			0 Unknown	3240	66.67
1	4860	100.00	1	1620	33.33

YEAR BUILT	# Locations	% of Locations	LOCATION VALID FLAG	# Locations	% of Locations
Unknown	4860	100.00	1 Valid	4860	100.00

COVERAGE DAMAGEABILITY GRADE	# Locations Coverages	% of Locations Coverages
0 Unknown	14580	75.00
3 Damageable	4860	25.00

CONSTRUCTION CLASS

Schema	Class	# Locations	% of Locations
RMS	Manufactured/Mobile Home with Tie-Downs	1620	33.33
RMS	MASONRY	1620	33.33
RMS	WOOD	1620	33.33

OCCUPANCY TYPE

Schema	Class	# Locations	% of Locations
ATC	Permanent Dwelling (single family housing)	4860	100.00

SQUARE FOOT BANDS

Square Foot Bands	# Locations	% of Locations
Unknown	4,860	100.00
< 1506	0	0.00
BETWEEN 1507 AND 2507	0	0.00
BETWEEN 2508 AND 5005	0	0.00
BETWEEN 5006 AND 10010	0	0.00
>10011	0	0.00

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

Signature: _____

Date: _____

Instructions:

In order to verify that the annual deductible factors have been applied to the model output, clients should report the following results as evidence of appropriate application:

- a.) portfolio level occurrence deductible gross AAL and the annual deductible gross AAL,
- b.) selected return period losses for each of occurrence deductibles and annual deductibles, and
- c.) for three sample locations in the portfolio, location level occurrence deductible gross AAL and the annual deductible gross AAL.

Client Information:	
Client Name:	
Model Version:	
Annual Deductible Factors Used (AOP/Non-AOP):	

Portfolio Level Model Output:					
AAL	Portfolio Name	Number of Accounts/Locations	Gross Occurrence Deductible AAL	Gross Annual Deductible AAL	Ratio: (Annual AAL) / (Occurrence AAL)
100 year RPL			100 year RPL with Occurrence Deductible	100 year RPL with Annual Deductible	Ratio: (Annual 100 RPL) / (Occurrence 100 AAL)
250 year RPL			250 year RPL with Occurrence Deductible	250 year RPL with Annual Deductible	Ratio: (Annual 250 RPL) / (Occurrence 250 AAL)

Location Level Model Output:						
Location Identifier	Postal Code	LOB-Construction Type	HU Deductible Amount	Gross Occurrence AAL	Gross Annual Deductible AAL	Ratio: Annual / Occurrence

Post Import Summary



Tuesday, December 08, 2015

Version 15.0.1 (Build 1625)

EDM Database : FormA1_RL15_Geo_EDM
 Portfolio Name : 1
 Peril : Wind

Location:

Location Coverage Values and Limits :

Valid	Loc Cov Count	Loc Cov Limits	Loc Cov Values
Yes	19,440	0.00	729,000,000.00
Total	19,440	0.00	729,000,000.00

Valid Location Coverage Values and Limits :

Loss Type	Loc Cov Count	Valid Loc Cov Value	Min Value	Max Value	Average Value
Building	9,720	445,500,000.00	5,000.00	100,000.00	45,833.33
Content	4,860	202,500,000.00	25,000.00	50,000.00	41,666.67
BI/ALE	4,860	81,000,000.00	10,000.00	20,000.00	16,666.67
Total	19440	729,000,000.00			

Loss Type	Loc Cov Count	Valid Loc Cov Limit	Min Limit	Max Limit	Average Limit
Total					

Geocoded Values and Limits :

Geocoded	Loc Count	Loc Cov Values	Loc Cov Limits
Yes	4,860	729,000,000.00	0.00
Total	4,860	729,000,000.00	0.00

Site:

Site Limits :

Valid	Loc Count	Site Limits
Yes	4,860	0.00
Total	4,860	0.00

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

Valid Site Limits:

Min Site Limit	Max Site Limit	Average Site Limit

Account and Policy:

Account :

Valid	Account Count	Loc Cov Values
Yes	4,860	729,000,000.00
Total	4,860	729,000,000.00

Policy Coverage Limits :

Valid	Pol Cov Count	Pol Cov Limits
Total		

Valid Policy Coverage Limits :

Loss Type	Valid Policy Cov Limit	Min Limit	Max Limit	AverageLimit
Total				

Policy Limits :

Valid	Blanket Limits Count	Blanket Limits
Yes	0	0.00
Total	0	0.00

Valid Policy Limits :

Min Blanket Limit	Max Blanket Limit	Average Blanket Limit
0.00	0.00	0.00

Policy Dates :

Expired Policy Count

Active Policy Count

Line of Business:

Line of Business	Valid Loc Cov Values
Total	

Construction Class:

Schema	Class	Valid Loc Cov Values
RMS	Manufactured/Mobile Home with Tie-Downs	145,800,000.00
RMS	MASONRY	291,600,000.00
RMS	WOOD	291,600,000.00
	Total	729,000,000.00

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

Occupancy Class:

Schema	Class	Valid Loc Cov Values
ATC	Permanent Dwelling (single family housing)	729,000,000.00
Total		729,000,000.00

Geocoding Resolution:

Resolution	Location Count	Loc Cov Values
Postcode	4,860	729,000,000.00
Total	4,860	729,000,000.00

Area :

Country	State/Cresta	Valid Loc Cov Value
US		729,000,000.00
Total		729,000,000.00

Peril Details (WS) :

<u>Distance to Coast (in miles)</u>	<u>Valid Loc Cov Values</u>
>= 0.00 and < 0.50	0.00
>= 0.50 and < 1.00	0.00
>= 1.00 and < 2.00	0.00
>= 2.00 and < 5.00	0.00
>= 5.00 and < 10.00	0.00
>= 10.00 and < 20.00	0.00
>= 20.00	0.00

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

Aggregate US Windstorm Exposures for Coastal Counties by Geocoding Resolution :

Category	State	Geocoding Resolution	# of Locations	Location Cov Values
Tier 1	FL	Postcode	3,459	518,850,000.00
		<i>Total</i>	3,459	<i>518,850,000.00</i>
<i>All Tier 1 Counties</i>		Postcode	3,459	518,850,000.00
Total for Tier 1 Counties			3459	518,850,000.00
Tier 2	FL	Postcode	1,233	184,950,000.00
		<i>Total</i>	1,233	<i>184,950,000.00</i>
<i>All Tier 2 Counties</i>		Postcode	1,233	184,950,000.00
Total for Tier 2 Counties			1233	184,950,000.00
Total for Tier 1 and Tier 2 counties				703,800,000.00

Aggregate US Windstorm Exposures for Coastal Counties by Unknown Building Characteristics :

Category	State	Building Characteristics	# of Locations	Location Cov Values
Total for Tier 1 and Tier 2 counties				0.00

Note: All exposure amounts are shown in their original currency. No currency conversion is performed while aggregating exposure for this report.

About RiskLink®



Version 15.0.1 (Build 1625)

RiskLink15.0.1



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