April 1, 2019

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

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone 5.1.8 and Touchstone 6.0.4

Dear Mr. Yager,

Thank you for the Commission's review of AIR's submission and the follow-up questions from January 4, 2019. Our answers to these questions are given below.

1. What is meant by "Most importantly, this update would not result in any changes in other software components as well as the structure of the software," which is listed as the first interim update. What is meant by "other software components?" Why does "the structure of the software" not change?

   What we meant by "Most importantly, this update would not result in any changes in other software components as well as the structure of the software" is that the default password controls are the only part of the software that was impacted by the update. Default password controls are the parts of the software that send and receive the password. The password is used for task execution (for example, fetching exposure data from the SQL database). The only change made was to the password itself.

   The "other software components", which include but are not limited to the user interface, loss engines or database contents, were left unchanged and are consistent with prior versions of Touchstone.

   The "structure of the software" refers to how the default password controls works in the software. The structure of the software remains the same because the process in which the password is applied in the software has not changed.

2. Provide a clear timeline of Touchstone version numbers starting with the version initially found acceptable by the Commission under the 2015 Standards and the changes that necessitated the new version numbers. Describe how the versioning fits with the model maintenance procedures covered in Standard CI-6. Are there other versions that lay in between the two listed in the letter for Touchstone (e.g., Touchstone 5.1.7)? If so, identify them in sequence, as well as the associated changes for each update. What are the key differences between Touchstone 5 and 6?

   The table below provides a clear timeline of Touchstone version numbers submitted since Touchstone 4.1.0 was submitted under the 2015 standards. We have included all of our previous

correspondence related to each of these Touchstone versions as attachments to this letter. Any version of Touchstone that is not included in the table below is not intended for Florida ratemaking, and therefore has not been submitted to the Florida Commission for review.

Touchstone Version	Change Necessitating Need for Version Number Update	Submitted Date	Date Found Acceptable	Page Numbers for Specified Attachments
4.1.0	• Latest Version found acceptable by the Commission under the 2015 Standards	10/28/2016	5/10/2017	N/A
5.0.0	• Please see Attachment_A	6/29/2017	8/2/2017	A: Pages 4-5
5.1.4	• Please see Attachment_B	1/29/2018	2/27/2018	B: Pages 6-7
5.1.5	• Please see Attachment_C1 and Attachment_C2	2/13/2018	3/2/2018	C1: Page 8 C2: Pages 9-11
5.1.6	• Please see Attachment_D1 through Attachment_D4	5/15/2018	7/12/2018	D1: Pages 12-15 D2: Pages 16-20 D3: Pages 21-26 D4: Pages 27-31
5.1.6 TLS	• Please see Attachment_E	6/21/2018	7/12/2018	E: Page 32
6.0.0	• Please see Attachment_F1 through Attachment_F4	8/31/2018	11/6/2018	F1: Pages 33-36 F2: Pages 37-40 F3: Pages 41-82 F4: Pages 83-85
5.1.8	• Enhancement to the Software Security's Protocol and US Earthquake Hazard update	1/4/2019	N/A	N/A
6.0.4	• Enhancement to the Software Security's Protocol and US Earthquake Hazard update	1/4/2019	N/A	N/A

The versioning fits with the model maintenance procedure covered in Standard CI-6 because AIR has followed the versioning guidelines for each of these Touchstone versions. Any changes to the first digit of Touchstone's version (e.g. 5.0 to 6.0) indicate a major version update which will include a new model being introduced or an existing model being updated. For example, we introduced a new Wildfire model in Touchstone 6.0.

A change to the second digit (e.g. 5.0 to 5.1) indicates a minor version change where there may be changes to existing models or new models, functionality enhancements and other various software upgrades. For example, between Touchstone 5.0 and Touchstone 5.1 we introduced comprehensive updates to the Geospatial functionality.

The third digit will be changed with any updates to minor versions (e.g. 6.0.0 to 6.0.4) if there are any bugs identified after the prior version was released. An example of an update to the third digit would be the updates to the US Earthquake model in Touchstone 6.0.4. As noted above, any version of Touchstone that is not included in the table above will not be used for Florida ratemaking, and therefore has not been submitted to the Florida Commission for review.

The key differences between Touchstone 5.0 and Touchstone 6.0 are listed in Attachments F1 through F4. AIR supports more than one major version of Touchstone at one time because AIR's clients require the flexibility to stay with their current version of Touchstone and to upgrade to newer versions within their own timeframes.

3. Comparison of the two Touchstone versions with the previously accepted model must be done separately. These comparisons in the two model versions being compared must be documented accurately within the required files by clearly identifying associated version numbers. For example, for the Excel file AIR15_FormA1_TS4.1.0_vs_TS6.0.4&TS5.1.8_Final.xlsx and within its tab Form _A-1_TS4.1.0 there appears the Model Name & Version Number: "Atlantic Tropical Cyclone Model v16.0.0 implemented in Touchstone v4.1.0" which is inconsistent with the present request. To summarize, there should be comparison files for each version Touchstone 5.1.8 and Touchstone 6.0.4 versus the (same) previously accepted version.

   We have included two sets of spreadsheets to compare the two versions of Touchstone separately. We have corrected the Form A-1 spreadsheet you noted above to change the model's legacy name, Atlantic Tropical Cyclone Model, to the current model name, US Hurricane Model. We also verified that the other spreadsheets contain the current model name, and no other changes were needed. The regression tests and the comparisons for 5.1.8 and 6.0.4 can be found in the following files:
   - AIR15_FormA1_TS4.1.0_vs_TS5.1.8_Final
   - AIR15_FormA1_TS4.1.0_vs_TS6.0.4_Final
   - AIR15_FormA4_TS4.1.0_vs_TS5.1.8_Final
   - AIR15_FormA4_TS4.1.0_vs_TS6.0.4_Final
   - AIR15_FormA8_TS4.1.0_vs_TS5.1.8_Final
   - AIR15_FormA8_TS4.1.0_vs_TS6.0.4_Final
   - AIR15_FormS5_TS4.1.0_vs_TS5.1.8_Final
   - AIR15_FormS5_TS4.1.0_vs_TS6.0.4_Final
   - AIR15_FormV2_TS4.1.0_vs_TS5.1.8_Final
   - AIR15_FormV2_TS4.1.0_vs_TS6.0.4_Final

Let me know if you have any questions or concerns.

Best regards,

Brandie Andrews, CEEM
Vice President, Regulatory and Rating Agency Client Services


AIR
A Verisk Business

AIR WORLDWIDE

June 29, 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, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.0.0 as Implemented in Touchstone Version 5.0.0

Dear Dr. Medders:

AIR has recently released an updated software platform, Touchstone Version 5.0.0, that contains the same AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.0.0 as implemented in Touchstone Version 4.1.0. The updates included in Touchstone Version 5.0.0 do not result in any changes to Florida wind loss costs or probable maximum loss (PML) levels. AIR would like to submit the AIR Hurricane Model for the United States Version 16.0.0 as Implemented in Touchstone Version 5.0.0 under Report of Activities, Section VI.G. as an interim software update.

Touchstone Version 5.0.0 contains updates to some U.S. models, non-U.S. models and to the software platform. There are two minor updates to the U.S. Hurricane Model outside of Florida, and a comprehensively updated U.S. Earthquake Model. For your convenience, we have included a short list of updates pertinent to the U.S. models below:

- An update to the storm surge component of the U.S. Hurricane Model to correctly reflect surge losses in Louisiana when the ZIP centroid falls in the water. Impacts losses only in a subset of coastal ZIPs in the state of Louisiana
- Update to U.S. Hurricane marine exposure geocoding to properly remap one Virginia ZIP code. Impacts marine craft losses only in one ZIP in Virginia
- A comprehensive update to the U.S. Earthquake Model including an update to the wage rates used for the workers' compensation analysis
- An update to the AIR U.S. Hurricane Model for Offshore Assets that is used for assessing risk associated with offshore structures such as the oil platforms and drilling equipment

Updates to models outside of the U.S. are listed below. There is no impact to Florida hurricane modeled loss costs or PMLs.

- Updates to the AIR Earthquake Model for Canada
- Introduction of the AIR Severe Thunderstorm Model for Australia
- Updates to the AIR Earthquake, Tropical Cyclone, and Brushfire models for Australia
- Updates to the AIR Earthquake Model for Southeast Asia
- Updates to damage functions for Industrial Facilities such as automobiles or textile manufacturing factories for seven non-U.S. models

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- Geography updates to recognize new postal and area codes for Australia and Southeast Asia
- Further expanding Touchstone's open platform capabilities, integration of six external models from Risk Frontiers for Australia and New Zealand
- Updates to the Industry Exposure Databases for Australia and European countries

Updates to software features are listed below. There is no impact to Florida hurricane modeled loss costs or PMLs.

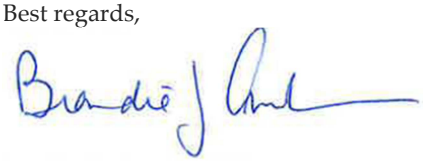
- Update analysis behavior, to allow the multi-peril analysis to complete when the exposure includes infrastructure construction/occupancy codes that are unsupported for one of the perils. Thus, this improvement allows users to obtain losses for multiple perils from one loss analysis for the entire portfolio even if there are infrastructure risks with construction/occupancy that are only supported for a subset of the selected perils.
- Improvements to the speed and performance of Touchstone functions. For example, instead of Touchstone calculating a risk's physical parameters on import, this calculation is now being done in conjunction with the loss analysis
- User interface and workflow improvements. For example, an improvement to the Touchstone's User Interface (UI) that allows multi-screen viewing capabilities

In accordance with the Report of Activities, Section VI.G., we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 5.0.0, as well as a percentage change that demonstrates no change for the Commission's review:

- 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)

AIR would like to request that the same consideration be given to Touchstone 5.0.0 as has been given to other past interim software releases. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.0.0 as implemented in Touchstone 5.0.0 is considered as equivalent to the AIR Hurricane Model for the United States v16.0.0 as implemented in Touchstone 4.1.0 and accepted under the 2015 Standards.

Best regards,



Brandie Andrews, CCM
Vice President, Regulation and Rating Agency

January 29, 2018
Floyd Yager, Chair
Florida Commission on Hurricane Loss Projection Methodology
c/o Donna Sirmons
Florida State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.4

Dear Mr. Yager:

AIR has recently released an updated software platform, Touchstone Version 5.1.4, that contains the AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.1.0 . Please note that due to an update to our model files for a new Fast Underwriting Loss Analysis (FUWLA), as explained below, our model version has been incremented. This update does not result in any changes to Florida loss costs or probable maximum loss (PML) levels, but was necessary based on our internal model versioning scheme. AIR would like to submit the AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.4 under Report of Activities, Section VI.G. as an interim software update.

Touchstone Version 5.1.4 contains updates to some U.S. models, non-U.S. models and to the software platform. There is no impact to Florida hurricane modeled loss costs or PMLs from these updates. For your convenience, we have listed all updates pertinent to the U.S. models, non-U.S. models and Touchstone software separately below.

Updates to U.S. Models

- Introduce Fast Underwriting Loss Analysis capability for the Earthquake and Hurricane Models for the United States. FUWLA provides enhanced speed for small-batch (less than 100 locations) underwriting analyses.
- Update to injury rate distributions and employee shift percentages in the Workers' Compensation Model for the United States, which is a component of the US Earthquake Model.
- Updated to the Workers' Compensation Model for Hawaii Earthquake and Alaska Earthquake Model to preserve original occupancy code for locations entered with unknown construction and unknown occupancy; formerly the occupancy was remapped to general commercial.
- Update to first floor heights and base elevation heights to account for variation in loss among different heights in the United States Inland Flood Model. This change does not impact the US Hurricane or Storm Surge models.
- Updates to correct layer and sublimit loss calculation with respect to the fire following and other sub-perils for the United States Earthquake Model.

Updates to non-U.S. Models

- Update to damage functions in the AIR Severe Thunderstorm Model for Australia
- Updates to damage functions for the Singapore Earthquake Model
- Updates to secondary modifiers, event intensities and Coverage D damage functions for Japan models

Updates to Touchstone Software

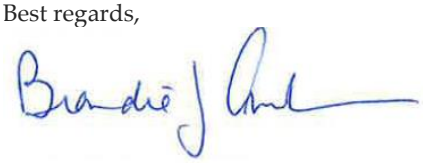
- Various updates to the Touchstone user interface, and software to improve functionality and user experience
- Updates to geocode status code that gets stored in SQL tables when locations are imported with geocodes and then submitted for re-geocoding
- Analyze Re integration and enhancements, allowing for use of Touchstone results in the Analyze Re platform (Analyze Re is a subsidiary of AIR providing analytics for reinsurance transactions direct from Touchstone results)
- Update to geospatial analysis functionality to allow application of layer level facultative reinsurance terms
- Various API (Application Interface Program) updates/enhancements
- Update to Touchstone license file configurations

In accordance with the 2015 Report of Activities, Section VI.G., we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 5.1.4, as well as a percentage change that demonstrates no change for the Commission's review:

- 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)

AIR would like to request that the same consideration be given to Touchstone 5.1.4 as has been given to other past interim software releases. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.1.0 as implemented in Touchstone 5.1.4 is considered as equivalent to the AIR Hurricane Model for the United States v16.0.0 as implemented in Touchstone 4.1.0 and accepted under the 2015 Standards.

Best regards,



Brandie Andrews, CCM
Vice President, Regulatory and Rating Agency Client Services

February 13, 2018
Floyd Yager, Chair
Florida Commission on Hurricane Loss Projection Methodology
c/o Donna Sirmons
Florida State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.5

Dear Mr. Yager:

AIR has recently released an updated software platform, Touchstone Version 5.1.5, that contains the AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.1.0. This is an optional version of our software for clients who seek compatibility with the Windows security protocol, Transport Layer Security 1.1 (TLS 1.1).

If any of AIR's clients have adopted TLS 1.1 on their other computer assets, they will need a version of Touchstone that is compatible. According to Microsoft, the "TLS protocols are located between the application protocol layer and the TCP/IP layer, where they can secure and send application data to the transport layer." To enable Touchstone on a TLS 1.1 environment required upgrading the application's drivers to a SQL Native client driver that inherently supports TLS 1.1 protocol. This update does not result in any changes to Florida loss costs or probable maximum loss (PML) levels.

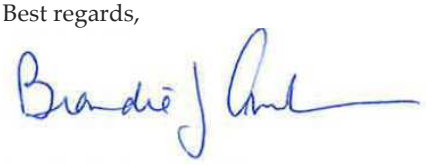
AIR would like to submit the AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.5 under Report of Activities, Section VI.G. as an interim software update.

In accordance with the 2017 Report of Activities, Section VI.G., we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 5.1.5, as well as a percentage change that demonstrates no change for the Commission's review:

- 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)
- Form V-2 (Hurricane Mitigation Measures and Secondary Characteristics, Range of Changes in Damage)

AIR would like to request that the same consideration be given to Touchstone 5.1.5 as has been given to other past interim software releases. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.1.0 as implemented in Touchstone 5.1.5 is considered as equivalent to the AIR Hurricane Model for the United States v16.0.0 as implemented in Touchstone 4.1.0 and accepted under the 2015 Standards.

Best regards,



Brandie Andrews, CCM
Vice President, Regulatory and Rating Agency Client Services

Andrews, Brandie

From: Andrews, Brandie
Sent: Tuesday, February 27, 2018 5:44 PM
To: 'Sirmons_Donna'; Wagenknecht, Ekatherina
Cc: Kowieski, Jason
Subject: RE: AIR Interim Software Submission - Touchstone 5.1.5

Hi dear Donna,

Katie is out this week so I'll take this one.

I can understand why the Commission and Pro Team have asked. Because we implement multiple models in our Touchstone software, AIR has traditionally had to distinguish between the hurricane model and the software in which it is implemented. When we populate our forms, we interpret "Model Release Date" to be the internal AIR Hurricane Model release date, as opposed to the final Touchstone software release date. In many cases, a software version/patch has not been made available for our clients yet when we submit the version to the Commission for review. If we were to reference the overall model release date in the forms, it would be noted as "TBD" which would not be as informational for the Commission.

Modeling Organization:	AIR Worldwide
	AIR Hurricane Model for the United States
Model Name & Version Number:	v16.1.0 implemented in Touchstone v5.1.5
Model Release Date:	7/17/2017

Standard CI-6 requires the modeling organization to maintain model (understood as model + software) versioning system and to increment the version accordingly, in particular if a model revision results in a change to Florida loss costs or PMLs then the model version must be updated.

AIR's versioning system found on page 203 of our submission differentiates between the model and the software. The cumbersome name we use to refer to our model as a whole is comprised of four pieces of information and reflect our versioning system. In order for the model or the software version numbers to change there must have been a change to that component. The change made in Touchstone 5.1.5 was only to the software; there was no revision to the model or any portion of the model, and there were no changes to the loss costs or PMLs in Florida. Therefore it is appropriate for the U.S. Hurricane model version in Touchstone 5.1.5 to be identical to the U.S. Hurricane model version in Touchstone 5.1.4.

Taken as a whole, you can see that our (overall) model version has changed appropriately and, we believe, meets Standard CI-6.

Components of AIR's Overall Model Version Number					
(1)	(2)	(3)	(4)	Additional Infor	
Name of Model	Model Version	Name of Software	Software Version	Model Release Date	S D
AIR Hurricane Model for the United States	v16.1.0	implemented in Touchstone	v5.1.4	7/17/2018	
AIR Hurricane Model for the United States	v16.1.0	implemented in Touchstone	v5.1.5	7/17/2018	

Please let us know if the Commission or Pro Team needs more information on this or other questions. Thank you so much!

Brandie

From: Sirmons_Donna [mailto:DonnaKaye.Sirmons@sbafla.com]
Sent: Tuesday, February 27, 2018 10:48 AM
To: Wagenknecht, Ekatherina <ewagenknecht@AIR-WORLDWIDE.COM>
Cc: Andrews, Brandie <bandrews@AIR-WORLDWIDE.COM>; Kowieski, Jason <JKowieski@AIR-WORLDWIDE.COM>
Subject: RE: AIR Interim Software Submission - Touchstone 5.1.5

Katie,

A subset of the Professional Team has been reviewing the Touchstone 5.1.5 request. Both this update and the previous one involving Touchstone 5.1.4 provided completed forms with the same Model Release Date of 7/17/2017. Please explain the concurrence of release date for two distinct versions. Describe how the versioning is in compliance with Standard CI-6, Hurricane Model Maintenance and Revision.

Thank you,
Donna

From: Wagenknecht, Ekatherina [mailto:ewagenknecht@AIR-WORLDWIDE.COM]
Sent: Tuesday, February 13, 2018 4:28 PM
To: Sirmons_Donna <DonnaKaye.Sirmons@sbafla.com>
Cc: Andrews, Brandie <bandrews@AIR-WORLDWIDE.COM>; Kowieski, Jason <JKowieski@AIR-WORLDWIDE.COM>
Subject: AIR Interim Software Submission - Touchstone 5.1.5

Hello Donna,

We would like to submit an interim software release, Touchstone 5.1.5, for the Commission's review. This version of Touchstone is to be reviewed for software equivalency to the currently accepted version, AIR Hurricane Model for the United States, v16.0.0 as implemented in Touchstone 4.1.0. The reason we are submitting this version separate from 5.1.4 is because not every client will choose to access updated Windows security protocols, and this release is for clients who need a version of Touchstone compatible with those updated security protocols. Please find our cover letter attached as well as the 5 regression tests as required by the 2017 ROA. We have also reviewed the results and confirmed that there are no changes to FL loss costs and PMLS due to the software update.

Thank you Donna, and have a lovely evening.
Katie

EKATHERINA WAGENKNECHT, **CEEM**
RISK ANALYST
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Additionally, please note that Florida has a very broad public records law. This communication (including your email address, any attachments and other email contents) may be subject to disclosure to the public and media.

May 15, 2018

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

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.6

Dear Mr. Yager,

AIR has recently released an updated software platform, Touchstone Version 5.1.6, that contains the AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.1.0. AIR would like to submit the AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.6 under Report of Activities, Section VI.G. as an interim software update.

Touchstone Version 5.1.6 contains updates that have no impact to the Florida hurricane modeled loss costs or PMLs from these updates. For your convenience, a list of the updates included in 5.1.6 is provided below.

- Update to exception handling if a user's environment experiences timeout during the analysis. Please see the Attachment, Summary of Environment Time-out Issue, for more information.
- Enhanced the pre-processing step of a loss analysis to improve run times. The pre-processing step performs validation checks on exposure against the analysis settings selected by users as well as prepping the engine cores for analysis.
- Update to the application of sublimits in Commercial policies covering multiple locations. An example of how sublimits would be leveraged in a Commercial policy is through a separate limit that would be used to cap the loss within a region (e.g. state) in additional to the overall policy limit. The update allows Touchstone to apply multiple sublimit sets within one policy accurately rather than only one set of sublimits.

In accordance with the 2015 Report of Activities, Section VI.G., we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 5.1.6, as well as a percentage change that demonstrates no change for the Commission's review:

- 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)
- Form V-2 (Hurricane Mitigation Measures and Secondary Characteristics, Range of Changes in Damage)

AIR would like to request that the same consideration be given to Touchstone 5.1.6 as has been given to other past interim software releases. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.1.0 as implemented in Touchstone 5.1.6 is considered as equivalent to the AIR

Hurricane Model for the United States v16.0.0 as implemented in Touchstone 4.1.0 and accepted under the 2015 Standards.

Regards,

Brandie Andrews, CEEM
Vice President, Regulatory and Rating Agency Client Services

Attachment – Summary of Environment Time-out Issue

Background

Touchstone 5.0 introduced improvements to the speed and performance of several software functions. One change made, as described in the 5th bullet on page 2 of our 6/30/2017 letter to the Commission, was to move the assignment of a locations' physical properties from the import step to the analysis step. As a reminder, physical properties are based on a location's latitude and longitude, include things like the soil type and elevation of the risk, and inform the assessment of the hazard.

It has come to our attention that a rare computer environmental issue has on at least one occasion caused a client's Touchstone analysis to experience a time-out of unknown length during which Touchstone failed to retrieve the physical properties for some locations. After the connection was reestablished, the Touchstone analysis finished, but the locations that did not get physical properties assigned were dropped from the analysis.

Change to Touchstone in 5.1.6

The Touchstone 5.1.6 hotfix addresses this issue by causing an analysis to fail if an environmental time-out occurs and persists through three attempts to reestablish connection, and if physical properties is not assigned for any locations. Touchstone provides a message in the log that indicates the point in time at which the analysis failed, and that the failing error was that physical properties could not be computed/assigned.

Before the Touchstone 5.0 change to timing of physical properties assignment (formerly it was during import, currently it is during analysis), it was possible for the same dropped location behavior to occur if the environment experienced a time-out. In such cases, the user could investigate any dropped locations and re-import them. The change to Touchstone 5.1.6 analysis exception handling will again allow for the user to investigate any dropped locations or the computer environmental issues.

Environment Time-out Causes

The Touchstone platform utilizes several hardware and software components including database, GIS, application, analysis and client servers, as well as Microsoft's High Performance Computing (HPC) functionality and SQL Server. AIR publishes hardware and software recommendations and, where needed, works with clients during set-up of the Touchstone environment to achieve optimal deployment on-site.

It is possible for a client's environment to experience certain conditions that will cause a connection time out during an analysis. Theoretically a time-out can happen in several ways:

1. An instance of the SQL Server Database Engine is not running during an analysis
2. The SQL Server Browser service is not running
3. The Transmission Control Protocol/Internet Protocol (TCP/IP) is disabled at time or its taking time to respond
4. There are network problems
5. The TCP/IP port for the Database Engine instance is blocked by a firewall
6. The client and server are not configured to use the same network protocol

Log Message Indicating Time-out

The current analysis log indicates the occurrence of a time-out and dropped locations through the following notifications:

```
----------------------
HPC Host Log
2018-01-22 09:04:31,723 Started processing physical properties at 1/22/2018 9:04:31 AM
2018-01-22 09:06:51,785 Could not complete physical properties computation. Exception: Could not open the file
M21_Phy_01.bin
----------------------


  - - - - - - - - - - - - -
  o Physical Properties Info
       Physical Properties computation completed at 01/22/2018 09:14:08
          Time taken for Physical Properties computation: 00:09:02
          Time taken for Post Processing of Physical Properties: 00:00:37
          Total time taken for Physical Properties processing: 00:09:40
      Physical properties couldn't be computed for 97348 location(s) with TRV
  of 44,041,031,301.
  - - - - - - - - - - - - -
```

The Touchstone 5.1.6 analysis log will include the above information, as well as indicate the point in time at which the analysis failed, and that the failing error was that physical properties could not be computed.

June 15th, 2018

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

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.6

Dear Mr. Yager,

We are writing to respond to the Commission's email dated 5/29/18 with questions regarding our Touchstone 5.1.6 submission. We understand the Commission's concerns, and would like to take the opportunity to thoroughly address each question.

Error Reporting and Exception Handling

1. How is this requirement (that the model update scope and utility is unrelated to Florida hurricane loss costs or hurricane probable maximum loss levels and does not include the Florida hurricane model component) met if Florida exposures undergo the same pre-processing steps as any other region? In other words, why does Section VI.G apply rather than Section VI.F? Additionally, the Commission asked: Why does this reported issue not constitute an error in the sense of the 2017 Report of Activities?

   Section VI.F applies when there is a difference in the model that was submitted and reviewed. This change does not represent a difference in the hurricane model, but rather the introduction of additional verification. It essentially puts in a safeguard against an extremely rare scenario that occurs externally from Touchstone.

   This change is also designed to address an oversight or shortcoming with our training protocols for clients. Troubleshooting data problems has always been a user-based task relating to data import, where the assignment of physical properties took place prior to Touchstone 5.0. Our clients had been trained to consider it a best practice to address issues related to their imported exposures before moving on with the analysis. Starting from Touchstone 5.0, the assignment of physical properties has been moved from import step to analysis step. Though we notified clients of this physical property order-of-operation change when releasing Touchstone 5.0, we could have been more explicit about the necessary change in user's best practice guidelines. In addition to such training, we feel that introducing the additional verification or exception handling for the environment time-out is necessary.

   Additionally, in the example screenshot of the log provided in our letter dated 5/15/18 as you pointed out, many locations were shown as not receiving physical properties assignment. This log came from an internal test where we forced a long environment time-out with the intent to deliberately induce the behavior. We provided the screenshot as an example of the log messaging.

2. How would this potential issue be revealed in the context of the submission to the Commission?

   This potential issue would only be revealed in a submission if AIR's network environment or internet failed to allow Touchstone to connect to the HPC server during analyses to produce exhibits for the submission, which has not happened. It is also a part of our best practices when producing the submission exhibits inspect all import and analyses logs.

3. What happens if the results (with missing properties) are used for rate filing for a specific client writing in Florida?

   If the results with missing properties have been used in a rate filing, the client would have to re-analyze their portfolio and resubmit their rate filing. We have proactively communicated this issue with our clients. To date, we are not aware of any cases where clients have used incomplete result sets in ratemaking.

4. How can it be ensured that if the issue has been detected in the log that it has been ultimately corrected and resolved?

   If the issue has been detected in the log, the client would re-run their analysis and check the new log. If the new log doesn't contain the issue, it can be ensured that it has been corrected and resolved. Prior to the change in Touchstone 5.0, users would also need to address the issue outside of the software and re-import their data for the analysis.

Enhanced Pre-Processing

5. Why does this enhancement not impact the calculation of loss costs or probable maximum loss levels with respect to Florida exposures?

   The enhancement does not impact the calculation of loss costs or probable maximum loss levels because the change is to a SQL Management Studio setting. The preprocessing procedures in Touchstone utilize SQL stored procedures or query plans to accomplish some tasks. These procedures and plans were not changed. What was changed was that the Auto_Create_Statistics SQL option was made to always be ON.

   SQL uses "statistics" to help queries run faster. According to the Microsoft website, "Statistics for query optimization are binary large objects (BLOBs) that contain statistical information about the distribution of values in one or more columns of a table or indexed view."

   In one type of user workflow we found that this Auto_Create_Stastics setting (which is usually ON) was sometimes getting changed to OFF. Specifically, when clients exported their Touchstone loss estimates and passed them to their reinsurance brokers, and when those analyses were brought back into the brokers' Touchstone software, the Auto_Create_Statistics option was being set to OFF by some of their SQL environments. This caused a very substantial slowdown in runtimes for any subsequent analyses that the brokers conducted on those portfolios. The update ensures that the setting stays ON, and therefore SQL stored procedures and query plans can run at their optimized levels.

6. For which exposures is this enhancement applied?

All exposures go through the same pre-processing steps within a Touchstone analysis.

7. Elaborate on the movement of the assignment of a location's physical properties from the import step to the analysis step as it relates to this enhancement.

   The movement of the assignment of a location's physical properties, completed in Touchstone 5.0, is not related to the enhancement for pre-processing speed made in Touchstone 5.1.6.

8. What is the meaning of validating the exposure against the analysis setting selected by the user? What if users' selections are not appropriate for a given exposure? What are the validation checks?

   The meaning of validating the exposure in Touchstone is to ensure that what clients select for analyses makes sense for the exposures they have imported.

   Before starting a loss analysis, Touchstone will check that all risks submitted for an analysis have valid parameters for the peril and catalog chosen for the analysis; i.e., US-only exposures are not being run against a Japan-only model.

   If the exposure is not appropriate for the analysis, Touchstone will not perform the analysis. The analysis log will reflect the results of its pre-processing verifications.

   The validation checks are all designed to verify that what clients select for analyses makes sense for the exposures they have imported, and include checking the peril vs. exposure locations and construction-occupancy combinations.

Sublimits

9. How does the new method regarding sublimits compare or contrast from the previous method?

   The change to Touchstone applies to a specific use case when a user's exposure contains a commercial policy with a layer, multiple peril-based sub-limits (e.g. a sublimit for earthquake and a sublimit for severe thunderstorm), multiple location- and peril-based policy conditions (e.g. a location has one earthquake sublimit deductible and a different severe thunderstorm sublimit deductible), and aggregated address information (e.g. ZIP Code is the finest address information provided). Also, one other condition relating to the data files must be present. It relates to configuration of import files for Touchstone which are comprised of contract data and location data, at minimum. This configuration is explained in the next paragraph.

   Generally, in importing insurance policies analyzed in Touchstone, users code the policy's contract information (contract ID, contract perils, policy layer terms, inception and expiration dates, etc.) in one .csv and location information in another .csv. Touchstone has further flexibility in that there is more than one way to enter some policy terms within these two files. For the specific use case relevant to this sublimit change, Touchstone allows users to enter layers and multiple peril-based sublimits using separate row entries in the contract input file (each peril's sublimit has a different row entry) and multiple location- and peril-based policy conditions in additional separate columns in the location file.

Before Touchstone 5.1.6, only when the import configuration using additional separate columns in the location file was leveraged, as is common with our London client base, Touchstone applied one set of peril-based sublimit terms to the policy locations. With this update in Touchstone 5.1.6, multiple peril sublimit policy conditions are applied.

10. What issues or errors occurred in the previous method?

    Previously, Touchstone only applied one set of peril-sublimit conditions for the specific use case outlined in question 9.

11. What are the impacts of this revision on model output results? (Provide examples.)

    Below is a simple example to illustrate the update made in Touchstone 5.1.6. The first risk in the table matches the use case described above and is impacted by the update: in Touchstone 4.1 (TS 4.1) the severe thunderstorm (ST) gross losses do not have the $100,000 sublimit applied, but in Touchstone 5.1.6 (TS 5.1.6) the sublimit has been applied.

    The second and subsequent example risks in the table illustrate the other data and import file configurations are not impacted by this update.

Policy	LocationID	Address Data	Import File Configuration (Contract-Row Sublimit Terms, or Location-Column Sublimit Terms)	State	Risks	Covered Perils	Has Layer?	Peril-Sublimit 1 - EQ	Peril Sublimit 2 - ST	GroundUp Loss - EQ	GroundUp Loss - ST	GrossLoss - TS 4.1	GrossLoss - TS 5.1.6	Notes
1	Location_1	Aggregate (e.g. ZIP)	Location-Column Configuration Used	OK	16	EQ, ST	Yes	100,000	150,000	200,000	300,000	350,000	250,000	Has layer, multiple sublimits, aggregated address information - impacted
1	Location_1	Aggregate (e.g. ZIP)	Only Contract-Row Configuration Used	OK	16	EQ, ST	Yes	100,000	150,000	200,000	300,000	250,000	250,000	Has layer, multiple sublimits, aggregated address information - not impacted
2	Location_2	Not Aggregated (e.g. Exact Address)	Location-Column or Contract-Row Configurations Used	NJ	1	EQ, ST	Yes	50,000	150,000	200,000	300,000	200,000	200,000	Has layer, multiple sublimits, but does not have aggregated address information - not impacted
3	Location_3	Aggregate (e.g. ZIP)	Location-Column or Contract-Row Configurations Used	ME	5	EQ, ST	Yes	-	25,000	200,000	300,000	225,000	225,000	Has layer, one sublimit, and aggregated address information - not impacted
4	Location_4	Not Aggregated (e.g. Exact Address)	Location-Column or Contract-Row Configurations Used	GA	10	EQ, ST	No	N/A	N/A	200,000	300,000	500,000	500,000	Does not have layer or sublimits, has detailed address information - not impacted
5	Location_5	Aggregate (e.g. ZIP)	Location-Column or Contract-Row Configurations Used	GA	10	EQ, ST	No	N/A	N/A	200,000	300,000	500,000	500,000	Does not have layer or sublimits, has aggregated address information - not impacted

12. What are the impacts of this revision relative to insurance rate filings?

    We believe there will be no impacts to residential insurance rate filings. This update applies to only a specific subset of commercial policies.

13. Why does the latest update introduce these non-zero digits whereas the previous version did not?

    This was due to a user error in preparing the final exhibit for our 5.1.6 submission. We accidentally did not pull the final 4.1 numbers from the official 4.1 spreadsheet, and we were therefore not consistent in the number of decimal places used in cells B9-B17 (Estimated Loss Level) and G9-G17 (Percent Difference of Estimated Loss Level) on both of the spreadsheet tabs Form_A-8_PartB_TS5.1.6 and Form_A-8_PartC_TS5.1.6.

For your reference in reviewing the 4.1 values in the revised Touchstone 5.1.6 spreadsheet, we have attached the original deliverable Form A-8 file, (AIR2015FormA8_20161221), from the Touchstone 4.1. submission. This spreadsheet includes the final verified 4.1 values that are now correctly reflected in the updated 5.1.6 spreadsheet, AIR15_FormA8_TS4.1_vs_TS5.1.6_20180608_Final.xlsx.

Form A-8: Probable Maximum Loss for Florida
Part A - Personal and Commercial Residential Probable Maximum Loss for Florida

Change in F	No	No	No	No	No

Modeling Organization: AIR Worldwide
Model Name & Version Number AIR Hurricane Model for the United States v16.1.0 implemented in Touchstone v5.1.6
Model Release Date: 7/17/2017

LOSS RANGE (MILLIONS)			TOTAL LOSS	AVERAGE LOSS (MILLIONS)	NUMBER OF HURRICANES	EXPECTED ANNUAL HURRICANE LOSSES*	RETURN PERIOD (YEARS)
$ -	to	$500	2,664,885	126	21082	53.3	2.1
$501	to	$1,000	3,542,526	722	4908	70.9	2.7
$1,001	to	$1,500	3,696,203	1,232	3000	73.9	3.2
$1,501	to	$2,000	3,565,158	1,737	2053	71.3	3.6
$2,001	to	$2,500	3,485,160	2,237	1558	69.7	4.0
$2,501	to	$3,000	3,533,390	2,741	1289	70.7	4.3
$3,001	to	$3,500	3,501,133	3,245	1079	70.0	4.7
$3,501	to	$4,000	3,233,084	3,742	864	64.7	5.1
$4,001	to	$4,500	3,309,933	4,244	780	66.2	5.5
$4,501	to	$5,000	3,109,398	4,747	655	62.2	5.8
$5,001	to	$6,000	5,941,618	5,491	1082	118.8	6.4
$6,001	to	$7,000	5,609,717	6,485	865	112.2	7.1
$7,001	to	$8,000	5,569,127	7,495	743	111.4	7.9
$8,001	to	$9,000	5,100,423	8,515	599	102.0	8.7
$9,001	to	$10,000	4,848,964	9,489	511	97.0	9.5
$10,001	to	$11,000	4,556,313	10,498	434	91.1	10.3
$11,001	to	$12,000	4,682,211	11,476	408	93.6	11.2
$12,001	to	$13,000	4,457,555	12,486	357	89.2	12.2
$13,001	to	$14,000	3,479,914	13,488	258	69.6	13.1
$14,001	to	$15,000	3,939,107	14,482	272	78.8	13.9
$15,001	to	$16,000	4,212,777	15,488	272	84.3	15.0
$16,001	to	$17,000	3,447,778	16,497	209	69.0	16.1
$17,001	to	$18,000	3,324,848	17,499	190	66.5	17.0
$18,001	to	$19,000	3,427,263	18,526	185	68.5	18.2
$19,001	to	$20,000	2,988,853	19,535	153	59.8	19.3
$20,001	to	$21,000	2,669,771	20,537	130	53.4	20.3
$21,001	to	$22,000	3,243,025	21,477	151	64.9	21.5
$22,001	to	$23,000	2,338,382	22,484	104	46.8	22.7
$23,001	to	$24,000	3,101,369	23,495	132	62.0	23.8
$24,001	to	$25,000	2,078,173	24,449	85	41.6	25.1
$25,001	to	$26,000	2,218,896	25,505	87	44.4	26.1
$26,001	to	$27,000	2,724,405	26,451	103	54.5	27.5
$27,001	to	$28,000	2,446,492	27,489	89	48.9	29.0
$28,001	to	$29,000	2,591,587	28,479	91	51.8	30.5
$29,001	to	$30,000	2,005,985	29,500	68	40.1	32.1
$30,001	to	$35,000	9,417,748	32,363	291	188.4	36.2
$35,001	to	$40,000	8,381,044	37,415	224	167.6	44.1
$40,001	to	$45,000	8,052,269	42,605	189	161.0	53.6
$45,001	to	$50,000	6,880,909	47,455	145	137.6	64.9
$50,001	to	$55,000	5,728,817	52,558	109	114.6	77.4
$55,001	to	$60,000	4,825,686	57,449	84	96.5	91.1
$60,001	to	$65,000	4,877,273	62,529	78	97.5	107.1
$65,001	to	$70,000	3,973,847	67,353	59	79.5	125.6
$70,001	to	$75,000	3,921,751	72,625	54	78.4	143.7
$75,001	to	$80,000	3,413,672	77,583	44	68.3	170.1
$80,001	to	$90,000	5,034,093	85,324	59	100.7	200.8
$90,001	to	$100,000	5,307,621	94,779	56	106.2	261.8
$100,001	to	$ Maximum	22,077,636	138,853	159	441.6	925.9
Total			216,537,791	4,667	46397	4,330.8	n/a

*Personal and commercial residential zero deductible statewide loss using 2012 FHCF personal and commercial residential exposure data – file name: *hlpm2012c.exe* .

Percentage Difference Between Touchstone 5.1.6 Form A-8 and Touchstone 4.1.0 Form A-8 for Part A

			Min:	0.000%	0.000%	0.000%	0.000%	0.000%
			Max	0.000%	0.000%	0.000%	0.000%	0.000%

LOSS RANGE (MILLIONS)			TOTAL LOSS	AVERAGE LOSS (MILLIONS)	NUMBER OF HURRICANES	EXPECTED ANNUAL HURRICANE LOSSES*	RETURN PERIOD (YEARS)
$ -	to	$500	0.000%	0.000%	0.000%	0.000%	0.000%
$501	to	$1,000	0.000%	0.000%	0.000%	0.000%	0.000%
$1,001	to	$1,500	0.000%	0.000%	0.000%	0.000%	0.000%
$1,501	to	$2,000	0.000%	0.000%	0.000%	0.000%	0.000%
$2,001	to	$2,500	0.000%	0.000%	0.000%	0.000%	0.000%
$2,501	to	$3,000	0.000%	0.000%	0.000%	0.000%	0.000%
$3,001	to	$3,500	0.000%	0.000%	0.000%	0.000%	0.000%
$3,501	to	$4,000	0.000%	0.000%	0.000%	0.000%	0.000%
$4,001	to	$4,500	0.000%	0.000%	0.000%	0.000%	0.000%
$4,501	to	$5,000	0.000%	0.000%	0.000%	0.000%	0.000%
$5,001	to	$6,000	0.000%	0.000%	0.000%	0.000%	0.000%
$6,001	to	$7,000	0.000%	0.000%	0.000%	0.000%	0.000%
$7,001	to	$8,000	0.000%	0.000%	0.000%	0.000%	0.000%
$8,001	to	$9,000	0.000%	0.000%	0.000%	0.000%	0.000%
$9,001	to	$10,000	0.000%	0.000%	0.000%	0.000%	0.000%
$10,001	to	$11,000	0.000%	0.000%	0.000%	0.000%	0.000%
$11,001	to	$12,000	0.000%	0.000%	0.000%	0.000%	0.000%
$12,001	to	$13,000	0.000%	0.000%	0.000%	0.000%	0.000%
$13,001	to	$14,000	0.000%	0.000%	0.000%	0.000%	0.000%
$14,001	to	$15,000	0.000%	0.000%	0.000%	0.000%	0.000%
$15,001	to	$16,000	0.000%	0.000%	0.000%	0.000%	0.000%
$16,001	to	$17,000	0.000%	0.000%	0.000%	0.000%	0.000%
$17,001	to	$18,000	0.000%	0.000%	0.000%	0.000%	0.000%
$18,001	to	$19,000	0.000%	0.000%	0.000%	0.000%	0.000%
$19,001	to	$20,000	0.000%	0.000%	0.000%	0.000%	0.000%
$20,001	to	$21,000	0.000%	0.000%	0.000%	0.000%	0.000%
$21,001	to	$22,000	0.000%	0.000%	0.000%	0.000%	0.000%
$22,001	to	$23,000	0.000%	0.000%	0.000%	0.000%	0.000%
$23,001	to	$24,000	0.000%	0.000%	0.000%	0.000%	0.000%
$24,001	to	$25,000	0.000%	0.000%	0.000%	0.000%	0.000%
$25,001	to	$26,000	0.000%	0.000%	0.000%	0.000%	0.000%
$26,001	to	$27,000	0.000%	0.000%	0.000%	0.000%	0.000%
$27,001	to	$28,000	0.000%	0.000%	0.000%	0.000%	0.000%
$28,001	to	$29,000	0.000%	0.000%	0.000%	0.000%	0.000%
$29,001	to	$30,000	0.000%	0.000%	0.000%	0.000%	0.000%
$30,001	to	$35,000	0.000%	0.000%	0.000%	0.000%	0.000%
$35,001	to	$40,000	0.000%	0.000%	0.000%	0.000%	0.000%
$40,001	to	$45,000	0.000%	0.000%	0.000%	0.000%	0.000%
$45,001	to	$50,000	0.000%	0.000%	0.000%	0.000%	0.000%
$50,001	to	$55,000	0.000%	0.000%	0.000%	0.000%	0.000%
$55,001	to	$60,000	0.000%	0.000%	0.000%	0.000%	0.000%
$60,001	to	$65,000	0.000%	0.000%	0.000%	0.000%	0.000%
$65,001	to	$70,000	0.000%	0.000%	0.000%	0.000%	0.000%
$70,001	to	$75,000	0.000%	0.000%	0.000%	0.000%	0.000%
$75,001	to	$80,000	0.000%	0.000%	0.000%	0.000%	0.000%
$80,001	to	$90,000	0.000%	0.000%	0.000%	0.000%	0.000%
$90,001	to	$100,000	0.000%	0.000%	0.000%	0.000%	0.000%
$100,001	to	$ Maximum	0.000%	0.000%	0.000%	0.000%	0.000%
Total			0.000%	0.000%	0.000%	0.000%	n/a

Form A-8: Probable Maximum Loss for Florida
Part A - Personal and Commercial Residential Probable Maximum Loss for Florida

Modeling Organization: AIR Worldwide
Model Name & Version Number: Atlantic Tropical Cylone Model v16.0.0 implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

LOSS RANGE (MILLIONS)			TOTAL LOSS	AVERAGE LOSS (MILLIONS)	NUMBER OF HURRICANES	EXPECTED ANNUAL HURRICANE LOSSES*	RETURN PERIOD (YEARS)
$ -	to	$500	2,664,885	126	21082	53.3	2.1
$501	to	$1,000	3,542,526	722	4908	70.9	2.7
$1,001	to	$1,500	3,696,203	1,232	3000	73.9	3.2
$1,501	to	$2,000	3,565,158	1,737	2053	71.3	3.6
$2,001	to	$2,500	3,485,160	2,237	1558	69.7	4.0
$2,501	to	$3,000	3,533,390	2,741	1289	70.7	4.3
$3,001	to	$3,500	3,501,133	3,245	1079	70.0	4.7
$3,501	to	$4,000	3,233,084	3,742	864	64.7	5.1
$4,001	to	$4,500	3,309,933	4,244	780	66.2	5.5
$4,501	to	$5,000	3,109,398	4,747	655	62.2	5.8
$5,001	to	$6,000	5,941,618	5,491	1082	118.8	6.4
$6,001	to	$7,000	5,609,717	6,485	865	112.2	7.1
$7,001	to	$8,000	5,569,127	7,495	743	111.4	7.9
$8,001	to	$9,000	5,100,423	8,515	599	102.0	8.7
$9,001	to	$10,000	4,848,964	9,489	511	97.0	9.5
$10,001	to	$11,000	4,556,313	10,498	434	91.1	10.3
$11,001	to	$12,000	4,682,211	11,476	408	93.6	11.2
$12,001	to	$13,000	4,457,555	12,486	357	89.2	12.2
$13,001	to	$14,000	3,479,914	13,488	258	69.6	13.1
$14,001	to	$15,000	3,939,107	14,482	272	78.8	13.9
$15,001	to	$16,000	4,212,777	15,488	272	84.3	15.0
$16,001	to	$17,000	3,447,778	16,497	209	69.0	16.1
$17,001	to	$18,000	3,324,848	17,499	190	66.5	17.0
$18,001	to	$19,000	3,427,263	18,526	185	68.5	18.2
$19,001	to	$20,000	2,988,853	19,535	153	59.8	19.3
$20,001	to	$21,000	2,669,771	20,537	130	53.4	20.3
$21,001	to	$22,000	3,243,025	21,477	151	64.9	21.5
$22,001	to	$23,000	2,338,382	22,484	104	46.8	22.7
$23,001	to	$24,000	3,101,369	23,495	132	62.0	23.8
$24,001	to	$25,000	2,078,173	24,449	85	41.6	25.1
$25,001	to	$26,000	2,218,896	25,505	87	44.4	26.1
$26,001	to	$27,000	2,724,405	26,451	103	54.5	27.5
$27,001	to	$28,000	2,446,492	27,489	89	48.9	29.0
$28,001	to	$29,000	2,591,587	28,479	91	51.8	30.5
$29,001	to	$30,000	2,005,985	29,500	68	40.1	32.1
$30,001	to	$35,000	9,417,748	32,363	291	188.4	36.2
$35,001	to	$40,000	8,381,044	37,415	224	167.6	44.1
$40,001	to	$45,000	8,052,269	42,605	189	161.0	53.6
$45,001	to	$50,000	6,880,909	47,455	145	137.6	64.9
$50,001	to	$55,000	5,728,817	52,558	109	114.6	77.4
$55,001	to	$60,000	4,825,686	57,449	84	96.5	91.1
$60,001	to	$65,000	4,877,273	62,529	78	97.5	107.1
$65,001	to	$70,000	3,973,847	67,353	59	79.5	125.6
$70,001	to	$75,000	3,921,751	72,625	54	78.4	143.7
$75,001	to	$80,000	3,413,672	77,583	44	68.3	170.1
$80,001	to	$90,000	5,034,093	85,324	59	100.7	200.8
$90,001	to	$100,000	5,307,621	94,779	56	106.2	261.8
$100,001	to	$ Maximum	22,077,636	138,853	159	441.6	925.9
Total			216,537,791	4,667	46397	4,330.8	n/a

*Personal and commercial residential zero deductible statewide loss using 2012 FHCF personal and commercial residential exposure data – file name: *hlpm2012c.exe* .

Form A-8: Probable Maximum Loss for Florida

Part B - Personal and Commercial Residential Probable Maximum Loss for Florida (Annual Aggregate)

Change in the PML levels:	No	No	No

Modeling Organization: AIR Worldwide

Model Name & Version Number: AIR Hurricane Model for the United States v16.1.0 implemented in Touchstone v5.1.6

Model Release Date: 7/17/2017

Percentage Difference Between Touchstone 5.1.6 Form A-8 and Touchstone 4.1.0 Form A-8 for Part B

Min:	0.000%	0.000%	0.000%
Max	0.000%	0.000%	0.000%

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Conditional Tail Expectation
Top Event	341,541	297016 to -	--
1000	150,697	137537 to 158540	193,575
500	120,232	111883 to 127384	162,962
250	97,022	93396 to 101145	134,836
100	64,718	61614 to 67017	101,036
50	44,076	42253 to 45549	76,804
20	22,339	21541 to 23048	49,241
10	11,212	10908 to 11572	32,490
5	4,028	3901 to 4157	19,703

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Condition Tail Expectation
Top Event	0.000%	0.000% to -	
1,000	0.000%	0.000% to 0.000%	0.000%
500	0.000%	0.000% to 0.000%	0.000%
250	0.000%	0.000% to 0.000%	0.000%
100	0.000%	0.000% to 0.000%	0.000%
50	0.000%	0.000% to 0.000%	0.000%
20	0.000%	0.000% to 0.000%	0.000%
10	0.000%	0.000% to 0.000%	0.000%
5	0.000%	0.000% to 0.000%	0.000%

Form A-8: Probable Maximum Loss for Florida
Part B - Personal and Commercial Residential Probable Maximum Loss for Florida (Annual Aggregate)

Modeling Organization: AIR Worldwide
Model Name & Version Number: Atlantic Tropical Cylone Model v16.0.0 implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Conditional Tail Expectation
Top Event	341,541	297016 to -	--
1,000	150,697	137537 to 158540	193,575
500	120,232	111883 to 127384	162,962
250	97,022	93396 to 101145	134,836
100	64,718	61614 to 67017	101,036
50	44,076	42253 to 45549	76,804
20	22,339	21541 to 23048	49,241
10	11,212	10908 to 11572	32,490
5	4,028	3901 to 4157	19,703

Modeling Organization: AIR Worldwide

Model Name & Version Number: AIR Hurricane Model for the United States v16.1.0 implemented in Touchstone v5.1.6

Model Release Date: 7/17/2017

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Conditional Tail Expectation
Top Event	314,093	281766 to -	--
1000	146,537	134373 to 155216	188,085
500	116,424	109215 to 123364	158,070
250	92,403	87798 to 97239	130,268
100	60,796	57601 to 63385	96,135
50	41,132	39374 to 42482	72,593
20	20,230	19541 to 20963	45,970
10	10,082	9770 to 10412	30,095
5	3,623	3509 to 3746	18,151

Percentage Difference Between Touchstone 5.1.6 Form A-8 and Touchstone 4.1.0 Form A-8 for Part C

Min:	0.000%	0.000%	0.000%
Max	0.000%	0.000%	0.000%

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Condition Tail Expectation
Top Event	0.000%	0.000% to -	
1,000	0.000%	0.000% to 0.000%	0.000%
500	0.000%	0.000% to 0.000%	0.000%
250	0.000%	0.000% to 0.000%	0.000%
100	0.000%	0.000% to 0.000%	0.000%
50	0.000%	0.000% to 0.000%	0.000%
20	0.000%	0.000% to 0.000%	0.000%
10	0.000%	0.000% to 0.000%	0.000%
5	0.000%	0.000% to 0.000%	0.000%

Form A-8: Probable Maximum Loss for Florida
Part C - Personal and Commercial Residential Probable Maximum Loss for Florida (Annual Occurrence)

Modeling Organization: **AIR Worldwide**
Model Name & Version Number: **AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0**
Model Release Date: **9/15/2016**

Return Period (Years)	Estimated Loss Level (Millions)	Uncertainty Interval (Millions)	Conditional Tail Expectation
Top Event	314,093	281766 to -	--
1,000	146,537	134373 to 155216	188,085
500	116,424	109215 to 123364	158,070
250	92,403	87798 to 97239	130,268
100	60,796	57601 to 63385	96,135
50	41,132	39374 to 42482	72,593
20	20,230	19541 to 20963	45,970
10	10,082	9770 to 10412	30,095
5	3,623	3509 to 3746	18,151

Form A-8: Probable Maximum Loss for Florida
Part A - Personal and Commercial Residential Probable Maximum Loss for Florida

Modeling Organization: AIR Worldwide
Model Name & Version Number: AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

LOSS RANGE (MILLIONS)			TOTAL LOSS	AVERAGE LOSS (MILLIONS)	NUMBER OF HURRICANES	EXPECTED ANNUAL HURRICANE LOSSES*	RETURN PERIOD (YEARS)
$ -	to	$500	2,664,885	126	21082	53.3	2.1
$501	to	$1,000	3,542,526	722	4908	70.9	2.7
$1,001	to	$1,500	3,696,203	1,232	3000	73.9	3.2
$1,501	to	$2,000	3,565,158	1,737	2053	71.3	3.6
$2,001	to	$2,500	3,485,160	2,237	1558	69.7	4.0
$2,501	to	$3,000	3,533,390	2,741	1289	70.7	4.3
$3,001	to	$3,500	3,501,133	3,245	1079	70.0	4.7
$3,501	to	$4,000	3,233,084	3,742	864	64.7	5.1
$4,001	to	$4,500	3,309,933	4,244	780	66.2	5.5
$4,501	to	$5,000	3,109,398	4,747	655	62.2	5.8
$5,001	to	$6,000	5,941,618	5,491	1082	118.8	6.4
$6,001	to	$7,000	5,609,717	6,485	865	112.2	7.1
$7,001	to	$8,000	5,569,127	7,495	743	111.4	7.9
$8,001	to	$9,000	5,100,423	8,515	599	102.0	8.7
$9,001	to	$10,000	4,848,964	9,489	511	97.0	9.5
$10,001	to	$11,000	4,556,313	10,498	434	91.1	10.3
$11,001	to	$12,000	4,682,211	11,476	408	93.6	11.2
$12,001	to	$13,000	4,457,555	12,486	357	89.2	12.2
$13,001	to	$14,000	3,479,914	13,488	258	69.6	13.1
$14,001	to	$15,000	3,939,107	14,482	272	78.8	13.9
$15,001	to	$16,000	4,212,777	15,488	272	84.3	15.0
$16,001	to	$17,000	3,447,778	16,497	209	69.0	16.1
$17,001	to	$18,000	3,324,848	17,499	190	66.5	17.0
$18,001	to	$19,000	3,427,263	18,526	185	68.5	18.2
$19,001	to	$20,000	2,988,853	19,535	153	59.8	19.3
$20,001	to	$21,000	2,669,771	20,537	130	53.4	20.3
$21,001	to	$22,000	3,243,025	21,477	151	64.9	21.5
$22,001	to	$23,000	2,338,382	22,484	104	46.8	22.7
$23,001	to	$24,000	3,101,369	23,495	132	62.0	23.8
$24,001	to	$25,000	2,078,173	24,449	85	41.6	25.1
$25,001	to	$26,000	2,218,896	25,505	87	44.4	26.1
$26,001	to	$27,000	2,724,405	26,451	103	54.5	27.5
$27,001	to	$28,000	2,446,492	27,489	89	48.9	29.0
$28,001	to	$29,000	2,591,587	28,479	91	51.8	30.5
$29,001	to	$30,000	2,005,985	29,500	68	40.1	32.1
$30,001	to	$35,000	9,417,748	32,363	291	188.4	36.2
$35,001	to	$40,000	8,381,044	37,415	224	167.6	44.1
$40,001	to	$45,000	8,052,269	42,605	189	161.0	53.6
$45,001	to	$50,000	6,880,909	47,455	145	137.6	64.9
$50,001	to	$55,000	5,728,817	52,558	109	114.6	77.4
$55,001	to	$60,000	4,825,686	57,449	84	96.5	91.1
$60,001	to	$65,000	4,877,273	62,529	78	97.5	107.1
$65,001	to	$70,000	3,973,847	67,353	59	79.5	125.6
$70,001	to	$75,000	3,921,751	72,625	54	78.4	143.7
$75,001	to	$80,000	3,413,672	77,583	44	68.3	170.1
$80,001	to	$90,000	5,034,093	85,324	59	100.7	200.8

Form A-8: Probable Maximum Loss for Florida
Part A - Personal and Commercial Residential Probable Maximum Loss for Florida

Modeling Organization: AIR Worldwide
Model Name & Version Number: AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

LOSS RANGE (MILLIONS)			TOTAL LOSS	AVERAGE LOSS (MILLIONS)	NUMBER OF HURRICANES	EXPECTED ANNUAL HURRICANE LOSSES*	RETURN PERIOD (YEARS)
$90,001	to	$100,000	5,307,621	94,779	56	106.2	261.8
$100,001	to	$ Maximum	22,077,636	138,853	159	441.6	925.9
Total			216,537,791	4,667	46397	4,330.8	n/a

*Personal and commercial residential zero deductible statewide loss using 2012 FHCF personal and commercial residential exposure data – file name: *hlpm2012c.exe* .

Form A-8: Probable Maximum Loss for Florida
Part B - Personal and Commercial Residential Probable Maximum Loss for Florida (Annual Aggregate)

Modeling Organization: AIR Worldwide
Model Name & Version Number: AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

		Based on 100K Bootstrap	
Return Period (Years)	**Estimated Loss Level (Millions)**	**Uncertainty Interval (Millions)**	**Conditional Tail Expectation**
Top Event	341,541	297016 to -	--
1,000	150,697	137537 to 158540	193,575
500	120,232	111883 to 127384	162,962
250	97,022	93396 to 101145	134,836
100	64,718	61614 to 67017	101,036
50	44,076	42253 to 45549	76,804
20	22,339	21541 to 23048	49,241
10	11,212	10908 to 11572	32,490
5	4,028	3901 to 4157	19,703

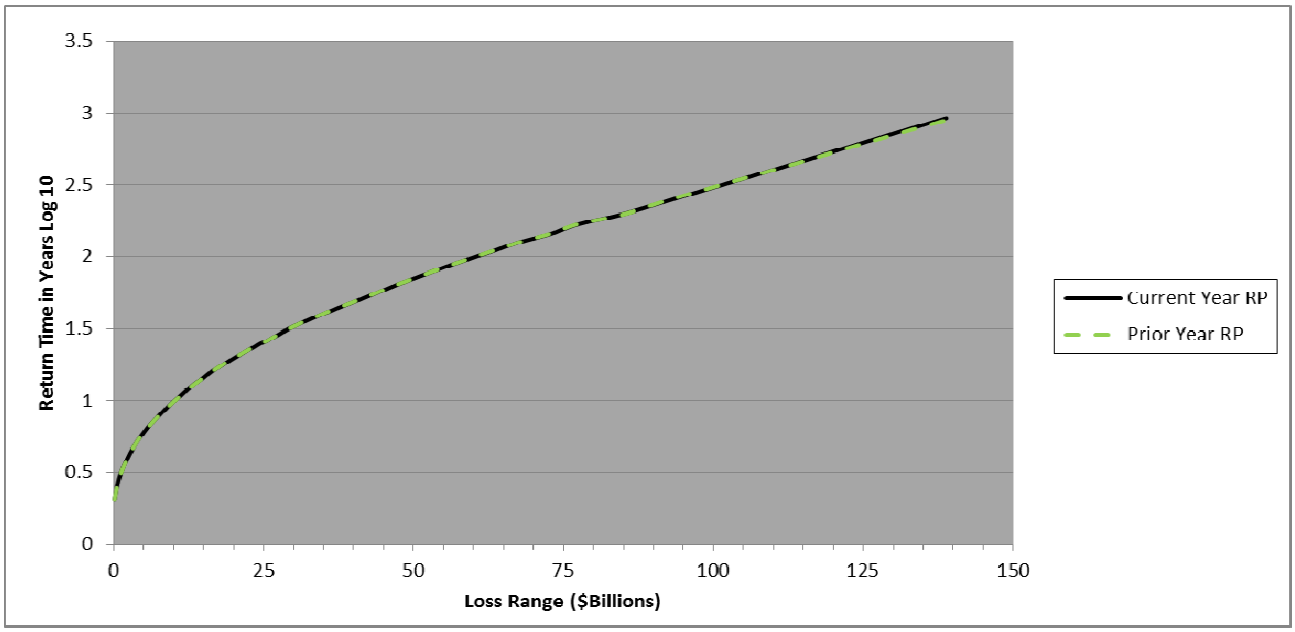
Form A-8: Probable Maximum Loss for Florida
Part C - Personal and Commercial Residential Probable Maximum Loss for Florida (Annual Occurrence)

Modeling Organization: AIR Worldwide
Model Name & Version Number: AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0
Model Release Date: 9/15/2016

		Based on 100K Bootstrap	
Return Period (Years)	**Estimated Loss Level (Millions)**	**Uncertainty Interval (Millions)**	**Conditional Tail Expectation**
Top Event	314,093	281766 to -	--
1,000	146,537	134373 to 155216	188,085
500	116,424	109215 to 123364	158,070
250	92,403	87798 to 97239	130,268
100	60,796	57601 to 63385	96,135
50	41,132	39374 to 42482	72,593
20	20,230	19541 to 20963	45,970
10	10,082	9770 to 10412	30,095
5	3,623	3509 to 3746	18,151

Form A-8: Probable Maximum Loss for Florida
Graphical Comparison of Residential Return Periods

Modeling Organization:	**AIR Worldwide**
Model Name & Version Number:	**AIR Hurricane Model for the U.S. v16.0.0 as Implemented in Touchstone v4.1.0**
Model Release Date:	**9/15/2016**



June 21, 2018
Floyd Yager, Chair
Florida Commission on Hurricane Loss Projection Methodology
c/o Donna Sirmons
Florida State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.6 TLS

Dear Mr. Yager:

AIR has recently released an updated software platform, Touchstone Version 5.1.6 TLS, that contains the AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.1.0. This is an optional version of our software for clients who seek compatibility with the Windows security protocol, Transport Layer Security 1.1 (TLS 1.1).

If any of AIR's clients have adopted TLS 1.1 on their other computer assets, they will need a version of Touchstone that is compatible. According to Microsoft, the "TLS protocols are located between the application protocol layer and the TCP/IP layer, where they can secure and send application data to the transport layer." To enable Touchstone on a TLS 1.1 environment required upgrading the application's drivers to a SQL Native client driver that inherently supports TLS 1.1 protocol. This update does not result in any changes to Florida loss costs or probable maximum loss (PML) levels.

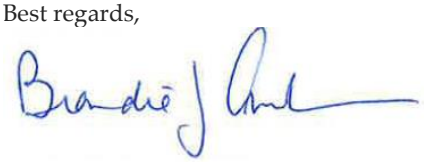
AIR would like to submit the AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 5.1.6 TLS under Report of Activities, Section VI.G. as an interim software update.

In accordance with the 2017 Report of Activities, Section VI.G., we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 5.1.6 TLS, as well as a percentage change that demonstrates no change for the Commission's review:

- 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)
- Form V-2 (Hurricane Mitigation Measures and Secondary Characteristics, Range of Changes in Damage)

AIR would like to request that the same consideration be given to Touchstone 5.1.6 TLS as has been given to other past interim software releases. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.1.0 as implemented in Touchstone 5.1.6 TLS is considered as equivalent to the AIR Hurricane Model for the United States v16.0.0 as implemented in Touchstone 4.1.0 and accepted under the 2015 Standards.

Best regards,



Brandie Andrews, CEEM
Vice President, Regulatory and Rating Agency Client Services

August 31, 2018
Floyd Yager, Chair
Florida Commission on Hurricane Loss Projection Methodology
c/o Donna Sirmons
Florida State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 6.0.0

Dear Mr. Yager:

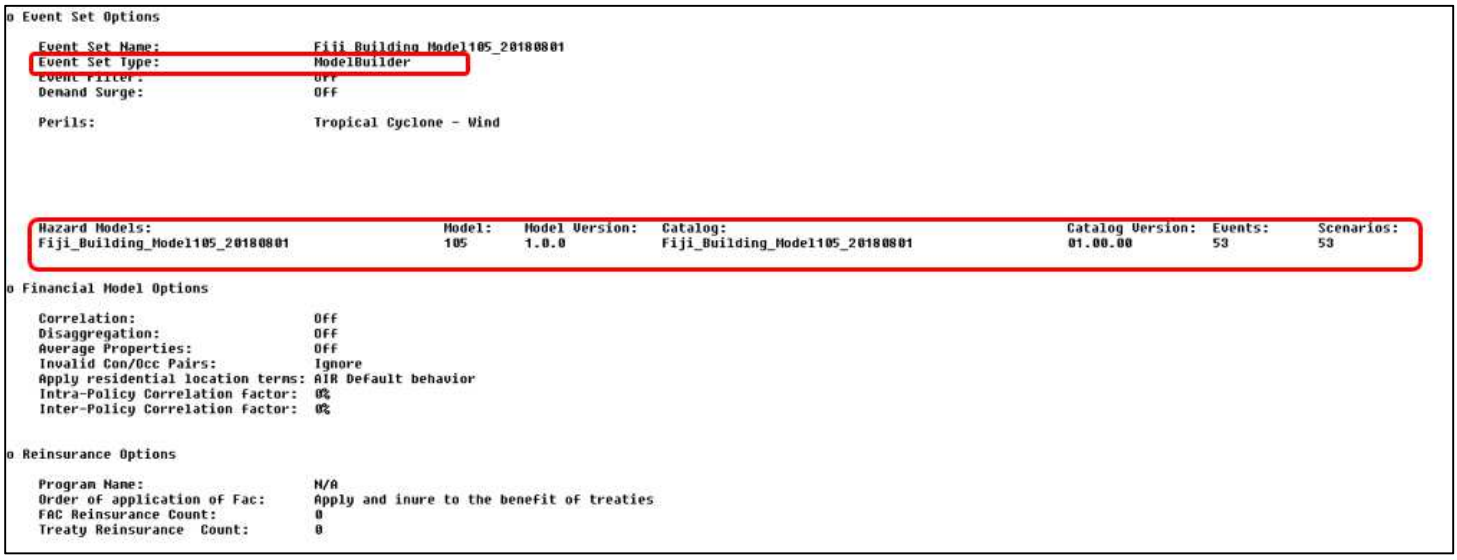
AIR has recently released an updated software platform, Touchstone Version 6.0.0, that contains the AIR Hurricane Model for the United States (the U.S. Hurricane Model) Version 16.1.0. The updated software platform, Version 6.0.0, also contains an update to one geographical database, the AIRAddressServer, that could be leveraged for the calculation of hurricane wind loss costs in the state of Florida.

AIR would like to submit the AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 6.0.0 under Report of Activities, Section VI.G. as an interim software update and Section VI.H as it contains an interim geographical data update.

Interim Software Update

Touchstone Version 6.0.0 contains various updates and enhancements to both models and the software platform which do not impact the hurricane wind loss costs as well as the probable maximum loss levels (PMLs) in FL. As required,, we have included a list of the updates that have been incorporated into Version 6.0.0:

- Comprehensive enhancements to the Europe models – this includes the introduction of the new AIR Severe Thunderstorm Model for EU, updates to the AIR Extratropical Cyclone and Earthquake Models of Europe, enhancements to the AIR Inland Flood and Earthquake Models for Southeast EU as well as updates to the geographic data such as CRESTA codes, boundaries and centroids in EU.
- Updates to two US models – updates to the AIR Wildfire and Inland Flood Models
- Updates to the AIR US Hurricane Model for Offshore Assets (the Offshore Model) – updates to the Offshore Industry Exposure Database and the oil and gas prices, which are used to calculate the cost of business interruption when the production platform is out of operation. The Offshore Model simulates the effects of winds and waves on insured oil and gas-production as well as drilling units in the Gulf of Mexico and estimates the corresponding insured losses.
- Introduction of Model Builder – this is a standalone tool that allows companies to deploy their custom-built or other third-party catastrophe models in the Touchstone platform. This new feature in Touchstone provides flexibility for users to incorporate their view of risk (for example, for perils or regions that are not currently covered by AIR) as well as allowing users to view and store modeled results from AIR and non-AIR models in one software platform. In the case that a non-AIR model is utilized for an analysis, Touchstone will provide explicit reference to the non-AIR models in the analysis log, as shown in the example below. The red boxes in Figure 1 and Figure 2 highlight the two sections of the log, Event Set Type and Hazard Models, where the relevant information is shown. For example, when a non-AIR model was run as in Figure 1, the Event Set Type shown is “Model Builder” whereas ‘Stochastic” is shown as the Event Set Type in Figure 2, when the AIR models have been selected.



o Event Set Options

Event Set Name:	Fiji Building Model105_20180801
Event Set Type:	ModelBuilder
Event Filter:	Off
Demand Surge:	Off
Perils:	Tropical Cyclone - Wind

Hazard Models:	Model:	Model Version:	Catalog:	Catalog Version:	Events:	Scenarios:
Fiji_Building_Model105_20180801	105	1.0.0	Fiji_Building_Model105_20180801	01.00.00	53	53

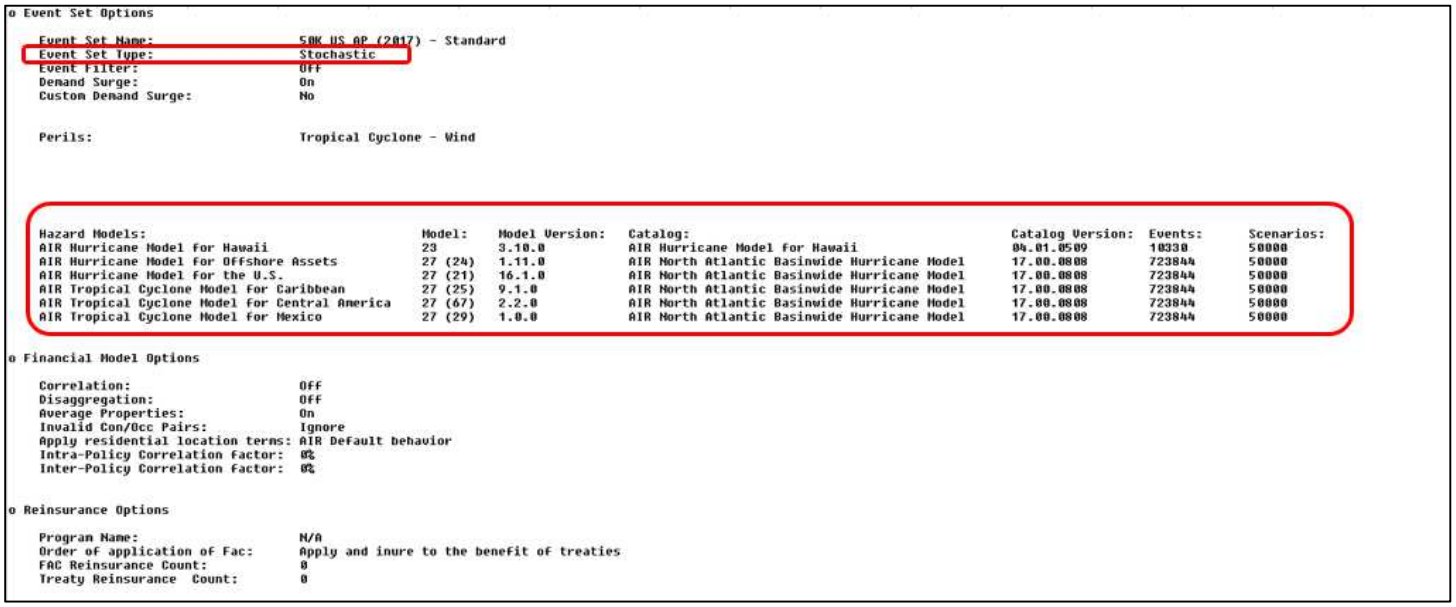
o Financial Model Options

Correlation:	Off
Disaggregation:	Off
Average Properties:	Off
Invalid Con/Occ Pairs:	Ignore
Apply residential location terms:	AIR Default behavior
Intra-Policy Correlation Factor:	0%
Inter-Policy Correlation Factor:	0%

o Reinsurance Options

Program Name:	N/A
Order of application of Fac:	Apply and inure to the benefit of treaties
FAC Reinsurance Count:	0
Treaty Reinsurance Count:	0

Figure 1. Example of the Analysis Log - User Models



o Event Set Options

Event Set Name:	50K US OP (2017) - Standard
Event Set Type:	Stochastic
Event Filter:	Off
Demand Surge:	On
Custom Demand Surge:	No
Perils:	Tropical Cyclone - Wind

Hazard Models:	Model:	Model Version:	Catalog:	Catalog Version:	Events:	Scenarios:
AIR Hurricane Model for Hawaii	23	3.10.0	AIR Hurricane Model for Hawaii	04.01.0509	10330	50000
AIR Hurricane Model for Offshore Assets	27 (24)	1.11.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Hurricane Model for the U.S.	27 (21)	16.1.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Caribbean	27 (25)	9.1.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Central America	27 (67)	2.2.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Mexico	27 (29)	1.0.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000

o Financial Model Options

Correlation:	Off
Disaggregation:	Off
Average Properties:	On
Invalid Con/Occ Pairs:	Ignore
Apply residential location terms:	AIR Default behavior
Intra-Policy Correlation Factor:	0%
Inter-Policy Correlation Factor:	0%

o Reinsurance Options

Program Name:	N/A
Order of application of Fac:	Apply and inure to the benefit of treaties
FAC Reinsurance Count:	0
Treaty Reinsurance Count:	0

Figure 2. Example of the Analysis Log – AIR Models

- User Interface (UI) and Navigation Enhancements – updates to the Touchstone UI include new functionalities to further improve user workflow, such as the ability for a user to import/export projects, the introduction of the Modeled Exposure Summary Table and Zonal Analytics functionality:
    - Import/Export projects - this new feature allows convenient data transfer between various Touchstone users, such as when insurance companies provide data to re-insurance brokers and vice versa, while maintaining the integrity of the original data and the preset configurations within Touchstone. For example, an insurer can export a particular project from their Touchstone environment along with the underlying exposure, which has been already processed and imported into the software, then provide the exported project file and database to their re-insurance broker. The broker, who also has access to the same version of Touchstone, could conveniently import the project as well as attach the exposure database without repeating the steps for data cleaning/mapping. In this case, the set-up of the

project would be identical between the insurer and the re-insurer broker, hence reducing the possibility of inconsistency in their analytical work.

- Introduction of the Modeled Exposure Summary Table - this new summary statistics table in the UI provides better clarity on the imported vs. analyzed exposure of an analysis by summarizing information such as the total replacement values, total insured values, number of locations for the user.
- Introduction of Zonal Analytics - the new functionality enables users to perform analyses and report outputs by customized geographic zones. For example, a user can request Touchstone to report the combined modeled results for a multi-state zone which encompasses all the risks in AL, FL and LA or a multi-county zone which includes all risks from Miami-Dade and Broward, with no additional calculation outside of the box. In the previous version, modeled results could only be reported by default geographic definitions such as state, county or ZIP Codes. As in the given example, before the introduction of Zonal Analytics, Touchstone would report losses by state or county and the user would need to manually combine the modeled results from AL, FL and LA or from Miami-Dade and Broward in their post-processing.

Interim Geographical Data Update

In addition to the enhancements mentioned above, Touchstone Version 6.0 incorporates the 2017 updates to the U.S. Census Topological Integrated Geographic Encoding and Referencing (TIGER)/Line data in one of the geographical databases, AIRAddressServer. The AIRAddressServer database is the primary source of geocoding assignments when detailed street address information is present in the company's exposure data. Therefore, this update has no impact on the ZIP Code centroids modeled for FL or resulting loss costs from a ZIP-aggregated exposure set containing no street information; it may have an impact on loss costs from an exposure set with detailed street information. The varying impacts on loss costs would depend on the type of exposure used for the analysis:

1. Exposure with ZIP Code information and no address information (see Location 1 in Table 1) – this geographical data update has no impact on loss costs or the PMLs, as shown in the A-Forms required by the Commission. In the case of ZIP aggregated exposure data, geocoding uses only the ZIPAll database, which has not been updated in Version 6.0.
2. Exposure imported with geocodes (latitude/longitude) supplied by user (see Location 2 in Table 1) – this geographical data update has no impact on loss costs or the PMLs. When the user supplies geocodes, geocoding is not required.
3. Exposure imported with detailed street address information (see Location 3 in Table 1) – this geographical update may impact loss costs if the street information provided by the US Census has been enhanced. For exposures imported with detailed street address information Touchstone uses its AIRAddressServer database to retrieve geocodes based on the address information provided by the user, including street names, street numbers, city information as well as ZIP Codes.

Below is an example to demonstrate the impact on losses for the three exposure types mentioned above. In Table 1 below, we show a loss comparison for three risks in Florida; Location 1 corresponds to case 1 listed above, Location 2 corresponds to case 2, and Location 3 corresponds to case 3 above. Losses for Location 1 and 2 remain the same between Version 4.1 and 6.0 as the geocoding for these two locations have not been affected by the US Census TIGER data update. On the other hand, there is a slight loss change for Location 3 as it relies on the AIRAddressServer, which reflects the TIGER data update. The updated TIGER data results in a small difference in the assigned geocode between Version 4.1 and 6.0 due to the US Census TIGER data update.

Specifically, the update to the TIGER data in the AIRAddressServer improves the geocode assigned in Version 6.0 for Location 3, where street/address information is used for geocoding. In Version 4.1, the street numbers were not available in the TIGER data for Touchstone to locate the exact location of street number 3405 on Chestnut Ridge Way. As the result, the street centroid was used in the geocoding assignment. In Version 6.1, the information of street numbers is available in the updated TIGER data enabling Touchstone to calculate the geocodes based on the exact street number imported.

Location	City	Address	Postal Code	Subarea Name	Area Code	Latitude	Longitude	Lat/Lon Assigned by TS? (Y/N)	TS 4.1 GrossLoss	TS 6.0 GrossLoss	Percent Diff
1			32065	Clay	FL	30.15265	-81.803039	Y	99.80	99.80	0.00%
2				Clay	FL	30.16328	-81.83773	N	91.87	91.87	0.00%
3	ORANGE PARK	3405 CHESTNUT RIDGE WAY	32065	Clay	FL	30.16224	-81.835525	Y	92.13	91.87	-0.28%

Table 1. Loss Impact by Exposure Type

As mentioned, the updated AIRAddressServer in Touchstone Version 6.0 contains the new information from the TIGER/Line data released by the US Census in September 2017. The TIGER shapefiles are spatial extracts from the Census Bureau's Master Address File (MAF)/TIGER database, containing features such as boundaries, roads, address information and other geographic information. The update generally includes data on new streets, enhanced street directional, street types as well as latitude/longitudes corresponding to the start and endpoints of street segments collected by the US Census across various jurisdictions. In general, the overall street match/geocoding improves by 1 to 2% with each annual release. The resulting changes in the modeled loss costs and PMLs at the portfolio level are minimal and are generally less than 0.01% based on a test client portfolio comprised of roughly 200,000 locations across Florida.

In accordance with the 2017 Report of Activities, Section VI.G. and VI.H, we have prepared the following forms with results from the currently acceptable version, 4.1.0, and the updated version, 6.0.0, as well as a percentage change that demonstrates no change for ZIP-aggregated exposures for the Commission's review:

- 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)
- Form V-2 (Hurricane Mitigation Measures and Secondary Characteristics, Range of Changes in Damage)

Additionally, in accordance with the 2017 Report of Activities, Section VI.H., we have prepared maps with all ZIP Code centroids as well as a sorted list of all ZIP Codes and corresponding primary counties from the currently acceptable version, 4.1.0, and the updated version, 6.0.0, for the Commission's review:

- Maps of the old and old ZIP Code centroids – see maps named, AIR15_ZIPCentroid_Map_FL_TS4.1.0, AIR15_ZIPCentroid_Map_FL_TS6.0.0 and AIR15_ZIPCentroid_Map_FL_TS4.1.0_vs_TS6.0.0.
- A list of all ZIP Code centroid movements of one mile or more, the top ten movements and the new and retired ZIP Codes – this geographical data update does not cause movements in modeled ZIP Code centroids. A list of all ZIP Codes and their primary counties are included in file named, AIR15_ZIPCode_List_TS4.1.0_vs_TS6.0.0_Final.
- A list of the impacted ZIP Code related databases – this geographical data update does not impact the AIR ZIPAll database

AIR would like to submit and request the review of Touchstone 6.0.0 under the Report of Activities, Section VI.G. and VI.H., for considerations of an interim software update and an interim geographical data update in conjunction. We ask that the Commission confirm that the AIR Hurricane Model for the United States v16.1.0 as implemented in Touchstone 6.0.0 is considered as acceptable under the 2015 Standards.

Best regards,

Brandie Andrews, CEEM
Vice President, Regulatory and Rating Agency Client Services

October 12, 2018
Floyd Yager, Chair
Florida Commission on Hurricane Loss Projection Methodology
c/o Donna Sirmons
Florida State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

Re: AIR Hurricane Model for the United States Version 16.1.0 as Implemented in Touchstone Version 6.0.0

Dear Mr. Yager:

Thank you for the Commission's review of AIR's submission and the follow-up questions from September 18, 2018. Our answers to these questions are given below.

1. How does Model Builder configure in the currently approved model architecture? How was the Model Builder tool used to generate the results submitted with this interim update? The cover letter indicates that Model Builder is a standalone tool that allows clients to substitute some of their own model components or data structures within AIR's approved model. Such a substitution would produce results that would not be accepted as meeting the Commission standards. If there were no such substitutions (i.e., AIR using its approved component parts and overall model structure), how does AIR avoid the possibility of Model Builder interfering with or impacting results generated from its accepted model?

   The Model Builder tool was not used to generate the results submitted with this interim update.

   Model Builder is a tool that works independently of the currently approved model architecture. However, the original architecture of Touchstone was designed to be "open" to allow users to bring in external models. For example, the ERN Earthquake Model for Mexico can be licensed from ERN and configured to be run in Touchstone.

   The output of the Model Builder tool is a User Model that can be brought into Touchstone via an import process. The high-level workflow for using Model builder is shown below:

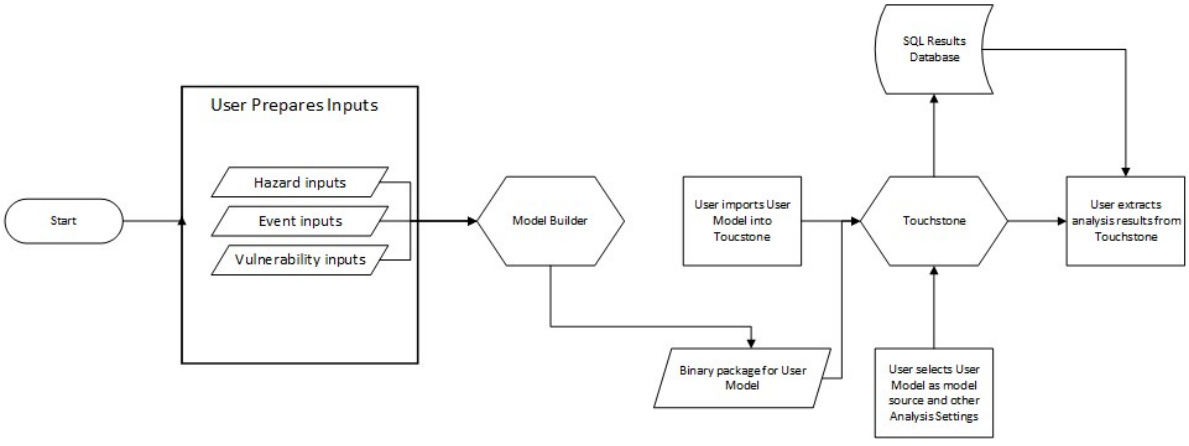


Figure 1. High-level workflow for using Model Builder

   The software platform, Touchstone, contains separate components related to each model; the AIR U.S. Hurricane model submitted and found acceptable by the Florida Commission on Hurricane Loss Projection Methodology (FCHLPM) has its own set of data files and source code that are separate from every other model in Touchstone. When AIR releases each version

of Touchstone, we compile the software which includes these separate binary file sets for each model as a part of the install package.

When using Touchstone for catastrophe loss analyses, a user can run, for example, a U.S. Earthquake and Hurricane analysis together, and Touchstone will process each peril separately to produce the loss estimates based on the stochastic simulations. Throughout the loss simulation, Touchstone communicates with the underlying SQL databases and tables. Every loss analysis conducted by a user produces a distinct set of results tables in SQL in which are stored losses for each stochastic event; in the tables, the combination of event ID and model code is different for each peril. The same is true when a user runs an analysis with a User Model from Model Builder. The user can identify their analysis and the accompanying analysis results both in the User Interface and in the SQL back-end. Two figures below show separate SQL tables; the first one contains loss results from an analysis using a User Model; the second contains results from an analysis using the AIR U.S. Hurricane model. Model Code 106 is the User Model, which is named by the user on import. Model Code = 27 is the AIR hurricane model. Model Builder prevents a user from naming their model with a number less than 100 because those model numbers are already allocated to AIR's own models in the system.

CatalogTypeCode	EventID	ModelCode	YearID	PerilSetCode	GroundUpLoss
STC	4	106	1	1	131.2929765282...
STC	18	106	1	1	336816.0822903...
STC	41	106	1	1	5184425.826695...
STC	55	106	2	1	22047.21139639...
STC	202	106	6	1	4576.079501289...
STC	240	106	7	1	174717.6673239...
STC	242	106	7	1	59874.69679601...
STC	287	106	8	1	3639.440340867...
STC	293	106	8	1	22008.83273101...
STC	320	106	8	1	12361607.04087...
STC	325	106	8	1	10861369.17266...
STC	329	106	9	1	7976413.293736...
STC	365	106	10	1	2477961.823794...
STC	406	106	10	1	57271.70441499...
STC	412	106	11	1	145837.2708198...

Figure 2. Touchstone SQL table with sample loss results from a user-created model with ModelCode = 106

CatalogTypeCode	EventID	ModelCode	YearID	PerilSetCode	GroundUpLoss
STC	21	27	2	1	1146142.29061149
STC	80	27	3	1	106158793.919696
STC	89	27	4	1	5955228.42107255
STC	181	27	7	1	4383045.86196836
STC	293	27	11	1	23642332.0169548
STC	300	27	11	1	409242.955029019
STC	398	27	15	1	40300045.6623975
STC	451	27	17	1	5352073.29834723
STC	490	27	19	1	18133512.5112663
STC	498	27	19	1	3695430.51423864
STC	518	27	20	1	32284154.8654919
STC	580	27	22	1	22409922.5918028
STC	671	27	26	1	35267922.7966226
STC	696	27	27	1	3447.81885423484
STC	766	27	30	1	188729666.679807
STC	770	27	30	1	198087.242741558
STC	779	27	30	1	24874365.6824048

Figure 3. Touchstone SQL table with sample loss results from AIRs hurricane model (ModelCode = 27)

The user producing modeled results for a rate filing in Florida is expected to use AIR's US Hurricane Model since it has been submitted and found acceptable by the FCHLPM. The Florida statutes governing rate filings are clear about which models may be used, and we expect our clients to be able to discern the difference between a model they generate using Model Builder and AIR's hurricane model. The analysis logs provided from Touchstone will indicate whether a user-supplied model has been used, as illustrated in Figure 1 from our August 31, 2018 letter.

2. Output material is documented in the analysis log as to the origin of the event set type and hazard models. This analysis log looks much different than the analysis log in the submission for AIR Hurricane Model for the U.S. V16.0.0 as Implemented in Touchstone V4.1.0 (January 2017). What differences could there be with respect to AIR versus User versions? The red boxes highlight where to look, but in the absence of these guides, how does one know if the generated results are all AIR driven or include some User aspects? Provide an analysis log that produced the interim update values.

   AIR uses the exact same software as its clients, so there is no difference between AIR and User versions of logs. We formatted the content of the analysis log provided in the submission so that it prints readably on an 8.5" piece of paper. The original log that was used for that purpose in the last submission is attached as ATTACHMENT A. Also, as you requested we're providing an analysis log that produced the Touchstone 6.0 interim update values for Form A-1; this is called Attachment B.

   The auditor of the catastrophe loss analysis results and accompanying analysis log will be expected to interpret its contents or ask AIR for assistance. To identify User aspects of an analysis log, the auditor can ask AIR or the insurer who provided the log for guidance.

3. With respect to the User Interface and Navigation Enhancements, how do these updates impact what the Professional Team looks at with respect to the Commission submission and forms? The accompanying letter notes: "In general, the overall street match/geocoding improves by 1 to 2% with each annual release." What do these percentages mean (i.e., 1 to 2% of what)? To what extent have the algorithms and methods using the new data changed from the previously accepted version?

   None of the other User Interface and Navigation Enhancements impact what the Professional Team looks at with respect to the Commission submission and forms. They are simply part of the software update, which the FCHLPM views as the "model" and requires us to report changes on.

The Interim Geographical Data Update and accompanying street match/geocoding improvements of 1-2% mentioned in the letter refer to the proportion of imported risks that achieve a higher geocode match level. In other words, the same portfolio of risks imported and geocoded in Touchstone 4.1 vs 6.0 will achieve 1-2% improvement in the overall geocode match level. This measurement is somewhat fuzzy. For example, the two examples below show a 1-2% improvement in overall geocode match levels, but in the second example, the % of risks geocoded at the highest geocode match level is higher.

Illustrative Geocoding Results				
Example 1		Touchstone 4.1	Touchstone 6.0	
Resolution Level	Geocode Match Level	Number of Risks	Number of Risks	Percent Increase
High	Point	900	909	1%
Medium	Relaxed	50	51	2%
Low	Postal Centroid	50	40	-20%
		1000	1000	0%
Example 2		Touchstone 4.1	Touchstone 6.0	
Resolution Level	Geocode Match Level	Number of Risks	Number of Risks	Percent Increase
High	Point	950	960	1%
Medium	Relaxed	40	41	2%
Low	Postal Centroid	50	39	-22%
		1040	1040	0%

Figure 4. Illustrations of 1-2% improvement in geocode match levels

4. In the Excel files, the model release date is given as 7/17/2017 rather than the date associated with the release given in the first sentence of the August 31, 2018 letter to Commissioner Yager.

   The date referenced by the first sentence of the August 31, 2018 letter is when we released Touchstone 6.0 to clients. The date used in the header of the Excel files is the date the software development team internally releases the AIR U.S. Hurricane model. AIR's versioning system found on page 203 of our submission differentiates between the model and the software. Unless the trigger for changing the hurricane model version occurs, the software development team does not re-release the hurricane model and both the hurricane model version number and its release date stay the same.

Best regards,

Brandie Andrews, CEEM
Vice President, Regulatory and Rating Agency Client Services

Touchstone

o Analysis Header Info

Analysis Type:	Detailed Loss Analysis
Analysis Name:	FormA8S5_50k_Wind_DS_AP_ET_LocSum_Cov
Template Name:	AIR Default Loss Template
Analysis SID:	31
Result SID:	8
Activity ID:	35
HPC Job ID:	3514
Description:	N/A
User:	AIR-WORLDWIDE\i56289
Time Submitted:	10/05/2016 00:27:45
Time Started:	10/05/2016 05:00:06
Time Ended:	10/05/2016 06:32:01
Duration:	01:31:54
Status:	Completed

o Error Summary

o System Info

System Version:	4.1.0.50
SQL Server Name:	CSG16DB03
HPC Head Node:	csg41flcmashn

o Analysis Target Info

Analysis Target Type:	Portfolio
Analysis Target Name:	FormA2A3A8S_non_OR_FHCF_zro_ded
Exposure View Filter:	Not Applied

Exposure Set(s):

Database	Exposure Set Name
FCHLPM_15_TS41RC1_Patch_A_Forms_Exp	A2A3A8S_non_OR_FHCF2012_zro_ded

Analysis Statistics:	Analyzed
Policy Count:	5
Total Location Count:	235870
Property Location Count:	235870
Workers Location Count:	0
Layers Count:	0
SubLimits Count:	0
Reinsurance Count:	0
Total Replacement Value:	2,076,280,603,137

o Event Set Options

Event Set Name:	50K US AP (2017) - Standard
Event Set Type:	Stochastic
Event Filter:	Off
Demand Surge:	On
Custom Demand Surge:	No
Perils:	Tropical Cyclone - Wind

Hazard Models:	Model:	Model Version:	Catalog:	Catalog Version:	Events:	Scenarios:
AIR Hurricane Model for Hawaii	23	3.9.0	AIR			

Hurricane Model for Hawaii 04.01.0509 10330 50000
AIR Hurricane Model for Offshore Assets 27 (24) 1.9.0 AIR North Atlantic Basinwide Hurricane Model 17.00.0808 723844 50000
AIR Hurricane Model for the U.S. 27 (21) 16.0.0 AIR North Atlantic Basinwide Hurricane Model 17.00.0808 723844 50000
AIR Tropical Cyclone Model for Caribbean 27 (25) 9.0.0 AIR North Atlantic Basinwide Hurricane Model 17.00.0808 723844 50000
AIR Tropical Cyclone Model for Central America 27 (67) 2.1.0 AIR North Atlantic Basinwide Hurricane Model 17.00.0808 723844 50000
AIR Tropical Cyclone Model for Mexico 27 (29) 1.0.0 AIR North Atlantic Basinwide Hurricane Model 17.00.0808 723844 50000

o Financial Model Options

Correlation:	Off
Disaggregation:	Off
Average Properties:	On
Invalid Con/Occ Pairs:	Ignore
Apply residential location terms:	AIR Default behavior
Intra-Policy Correlation factor:	0%
Inter-Policy Correlation factor:	0%

o Reinsurance Options

Program Name:	N/A
Order of application of Fac:	On
FAC Reinsurance Count:	0
Treaty Reinsurance Count:	0

o Custom Model Options

Custom Model:	N/A

o Output Options

Loss Perspectives:	Ground Up Retained Gross Net of Pre-CAT
Event Losses By:	Portfolio
Geography:	Event Total
Summary (AAL Only):	Location Summary
Loss Details:	Coverage

o Analysis Management Options

Min-Max Cores:	1-16
Scheduled On:	10/05/2016 05:00:04
Priority:	Normal
Processing Resource:	OnPremises
Result Server:	CSG16DB03
Result Database:	FCHLPM_15_TS41RC1_Patch_A_Forms_Res
Results Currency Set:	AIR Default
Results Currency:	USD
Move Marine Craft Geocodes:	Off
Commodity Prices	
Gas:	2.93
Oil:	53.3

o Flexibility Options

Not available.

o Terrorism Options

Terrorism Not Covered - Coverage solely provided by Standard Fire Policies (SFP)

o Process Details

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HPC Host Log
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HPC Host Log
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HPC Host Log
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HPC Host Log
2016-10-05 05:30:07,315
MSG: 20161005 05:30:07

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN1"
Job Assignment:            [1 - 3125] years
************************************************


2016-10-05 05:30:08,066 LOG| 20161005 05:30:08|Shared Memory|Shared memory is created with a
name 31_2
|

2016-10-05 05:30:59,863
MSG: 20161005 05:30:59
 Chunk 1 loaded. Time 50 s, policy 1 - 1, available memory: 30287 MB (was 30722).

2016-10-05 05:42:44,686
MSG: 20161005 05:42:44
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:45,014 LOG| 20161005 05:42:45|Processing Historical EventSet| Chunk 1:
YearStart: 1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 05:42:45,499
MSG: 20161005 05:42:45
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:45,670 LOG| 20161005 05:42:45|Processing RDS EventSet| Chunk 1: YearStart:
1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 05:42:45,670
MSG: 20161005 05:42:45
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:45,717
MSG: 20161005 05:42:45
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:46,374 LOG| 20161005 05:42:46|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:11,300
MSG: 20161005 05:30:11

Engine Version:          "4.0.0.0"

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Server:                    "CSG41FLCMCN2"
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Job Assignment:            [3126 - 6250] years
************************************************


2016-10-05 05:30:11,909 LOG| 20161005 05:30:11|Shared Memory|Shared memory is created with a
name 31_2
|

2016-10-05 05:30:49,050
MSG: 20161005 05:30:49
 Chunk 1 loaded. Time 36 s, policy 1 - 1, available memory: 28202 MB (was 28285).

2016-10-05 05:41:53,457
MSG: 20161005 05:41:53
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:41:53,582 LOG| 20161005 05:41:53|Processing Historical EventSet| Chunk 1:
YearStart: 4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 05:41:53,847
MSG: 20161005 05:41:53
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:41:53,910 LOG| 20161005 05:41:53|Processing RDS EventSet| Chunk 1: YearStart:
4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 05:41:53,910
MSG: 20161005 05:41:53
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:41:53,957
MSG: 20161005 05:41:53
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:41:54,551 LOG| 20161005 05:41:54|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:23,206
MSG: 20161005 05:30:23

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [6251 - 9375] years
************************************************


2016-10-05 05:30:23,659
MSG: 20161005 05:30:23
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:44,034
MSG: 20161005 05:30:44
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:44,034 LOG| 20161005 05:30:44|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:49,972
MSG: 20161005 05:30:49
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28147 MB (was 28711).

2016-10-05 05:41:57,832
```

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MSG: 20161005 05:41:57
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:41:57,911 LOG| 20161005 05:41:57|Processing Historical EventSet| Chunk 1:
YearStart: 7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|

2016-10-05 05:41:59,208
MSG: 20161005 05:41:59
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:41:59,270 LOG| 20161005 05:41:59|Processing RDS EventSet| Chunk 1: YearStart:
7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|

2016-10-05 05:41:59,270
MSG: 20161005 05:41:59
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:41:59,301
MSG: 20161005 05:41:59
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:41:59,926 LOG| 20161005 05:41:59|Async
Saving|CompleteSavingResults:Event_Results Saved
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HPC Host Log
2016-10-05 05:30:23,488
MSG: 20161005 05:30:23

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [9376 - 12500] years
************************************************


2016-10-05 05:30:24,081
MSG: 20161005 05:30:24
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:44,034
MSG: 20161005 05:30:44
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:44,034 LOG| 20161005 05:30:44|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:49,941
MSG: 20161005 05:30:49
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28150 MB (was 28711).

2016-10-05 05:42:00,302
MSG: 20161005 05:42:00
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:00,395 LOG| 20161005 05:42:00|Processing Historical EventSet| Chunk 1:
YearStart: 10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|

2016-10-05 05:42:00,958
MSG: 20161005 05:42:00
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:01,020 LOG| 20161005 05:42:01|Processing RDS EventSet| Chunk 1: YearStart:
10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|
```

```
2016-10-05 05:42:01,020
MSG: 20161005 05:42:01
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:01,067
MSG: 20161005 05:42:01
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:01,661 LOG| 20161005 05:42:01|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:31,988
MSG: 20161005 05:30:31

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [12501 - 15625] years
************************************************


2016-10-05 05:30:32,331
MSG: 20161005 05:30:32
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:44,034
MSG: 20161005 05:30:44
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:44,034 LOG| 20161005 05:30:44|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:49,941
MSG: 20161005 05:30:49
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28150 MB (was 28711).

2016-10-05 05:41:41,517
MSG: 20161005 05:41:41
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:41:41,861 LOG| 20161005 05:41:41|Processing Historical EventSet| Chunk 1:
YearStart: 13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 05:41:42,580
MSG: 20161005 05:41:42
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:41:42,736 LOG| 20161005 05:41:42|Processing RDS EventSet| Chunk 1: YearStart:
13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 05:41:42,736
MSG: 20161005 05:41:42
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:41:42,768
MSG: 20161005 05:41:42
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:41:43,377 LOG| 20161005 05:41:43|Async
Saving|CompleteSavingResults:Event_Results Saved
|
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HPC Host Log
2016-10-05 05:30:32,779
MSG: 20161005 05:30:32

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN3"
Job Assignment:           [15626 - 18750] years
************************************************


2016-10-05 05:30:33,529 LOG| 20161005 05:30:33|Shared Memory|Shared memory is created with a
name 31_2
|

2016-10-05 05:31:10,844
MSG: 20161005 05:31:10
 Chunk 1 loaded. Time 36 s, policy 1 - 1, available memory: 28400 MB (was 28365).

2016-10-05 05:43:05,646
MSG: 20161005 05:43:05
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:43:05,708 LOG| 20161005 05:43:05|Processing Historical EventSet| Chunk 1:
YearStart: 16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 05:43:06,989
MSG: 20161005 05:43:06
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:43:07,052 LOG| 20161005 05:43:07|Processing RDS EventSet| Chunk 1: YearStart:
16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 05:43:07,052
MSG: 20161005 05:43:07
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:43:07,099
MSG: 20161005 05:43:07
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:43:07,739 LOG| 20161005 05:43:07|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:38,201
MSG: 20161005 05:30:38

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN3"
Job Assignment:           [18751 - 21875] years
************************************************


2016-10-05 05:30:38,623
MSG: 20161005 05:30:38
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:31:05,828
MSG: 20161005 05:31:05
Shared memory event LossEngineSM_Event31_2 is signaled
```

```
2016-10-05 05:31:05,828 LOG| 20161005 05:31:05|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:31:11,875
MSG: 20161005 05:31:11
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28352 MB (was 28617).

2016-10-05 05:43:20,771
MSG: 20161005 05:43:20
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:43:20,881 LOG| 20161005 05:43:20|Processing Historical EventSet| Chunk 1:
YearStart: 19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 05:43:21,271
MSG: 20161005 05:43:21
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:43:21,318 LOG| 20161005 05:43:21|Processing RDS EventSet| Chunk 1: YearStart:
19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 05:43:21,318
MSG: 20161005 05:43:21
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:43:21,365
MSG: 20161005 05:43:21
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:43:21,975 LOG| 20161005 05:43:21|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:42,191
MSG: 20161005 05:30:42

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [21876 - 25000] years
************************************************


2016-10-05 05:30:42,691
MSG: 20161005 05:30:42
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:44,034
MSG: 20161005 05:30:44
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:44,034 LOG| 20161005 05:30:44|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:49,941
MSG: 20161005 05:30:49
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28150 MB (was 28711).

2016-10-05 05:41:46,721
MSG: 20161005 05:41:46
 Chunk 1: Analysis of Stochastic Eventsets completed...
```

```
2016-10-05 05:41:46,799 LOG| 20161005 05:41:46|Processing Historical EventSet| Chunk 1:
YearStart: 22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|

2016-10-05 05:41:47,284
MSG: 20161005 05:41:47
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:41:47,346 LOG| 20161005 05:41:47|Processing RDS EventSet| Chunk 1: YearStart:
22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|

2016-10-05 05:41:47,346
MSG: 20161005 05:41:47
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:41:47,393
MSG: 20161005 05:41:47
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:41:47,987 LOG| 20161005 05:41:47|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:48,394
MSG: 20161005 05:30:48

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [25001 - 28125] years
************************************************


2016-10-05 05:30:48,722
MSG: 20161005 05:30:48
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:48,722
MSG: 20161005 05:30:48
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:48,722 LOG| 20161005 05:30:48|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:54,160
MSG: 20161005 05:30:54
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 27851 MB (was 28240).

2016-10-05 05:42:27,915
MSG: 20161005 05:42:27
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:28,103 LOG| 20161005 05:42:28|Processing Historical EventSet| Chunk 1:
YearStart: 25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 05:42:28,431
MSG: 20161005 05:42:28
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:28,540 LOG| 20161005 05:42:28|Processing RDS EventSet| Chunk 1: YearStart:
25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 05:42:28,540
MSG: 20161005 05:42:28
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 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:28,587
MSG: 20161005 05:42:28
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:29,244 LOG| 20161005 05:42:29|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:52,457
MSG: 20161005 05:30:52

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN2"
Job Assignment:           [28126 - 31250] years
************************************************


2016-10-05 05:30:52,847
MSG: 20161005 05:30:52
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:30:52,847
MSG: 20161005 05:30:52
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:30:52,847 LOG| 20161005 05:30:52|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:30:58,300
MSG: 20161005 05:30:58
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 27833 MB (was 27937).

2016-10-05 05:42:33,885
MSG: 20161005 05:42:33
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:33,947 LOG| 20161005 05:42:33|Processing Historical EventSet| Chunk 1:
YearStart: 28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 05:42:34,401
MSG: 20161005 05:42:34
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:34,463 LOG| 20161005 05:42:34|Processing RDS EventSet| Chunk 1: YearStart:
28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 05:42:34,463
MSG: 20161005 05:42:34
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:34,510
MSG: 20161005 05:42:34
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:35,229 LOG| 20161005 05:42:35|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:52,812
MSG: 20161005 05:30:52

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [31251 - 34375] years
************************************************


2016-10-05 05:30:53,202
MSG: 20161005 05:30:53
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:31:05,828
MSG: 20161005 05:31:05
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:31:05,828 LOG| 20161005 05:31:05|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:31:11,875
MSG: 20161005 05:31:11
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28352 MB (was 28617).

2016-10-05 05:42:32,550
MSG: 20161005 05:42:32
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:32,878 LOG| 20161005 05:42:32|Processing Historical EventSet| Chunk 1:
YearStart: 31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 05:42:33,113
MSG: 20161005 05:42:33
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:33,238 LOG| 20161005 05:42:33|Processing RDS EventSet| Chunk 1: YearStart:
31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 05:42:33,238
MSG: 20161005 05:42:33
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:33,269
MSG: 20161005 05:42:33
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:33,894 LOG| 20161005 05:42:33|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:30:59,280
MSG: 20161005 05:30:59

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [34376 - 37500] years
************************************************
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2016-10-05 05:30:59,640
MSG: 20161005 05:30:59
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:31:05,828
MSG: 20161005 05:31:05
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:31:05,828 LOG| 20161005 05:31:05|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:31:11,890
MSG: 20161005 05:31:11
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28353 MB (was 28617).

2016-10-05 05:42:06,033
MSG: 20161005 05:42:06
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:06,299 LOG| 20161005 05:42:06|Processing Historical EventSet| Chunk 1:
YearStart: 34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 05:42:06,486
MSG: 20161005 05:42:06
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:06,596 LOG| 20161005 05:42:06|Processing RDS EventSet| Chunk 1: YearStart:
34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 05:42:06,596
MSG: 20161005 05:42:06
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:06,642
MSG: 20161005 05:42:06
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:07,252 LOG| 20161005 05:42:07|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:31:16,828
MSG: 20161005 05:31:16

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [37501 - 40625] years
************************************************


2016-10-05 05:31:17,344
MSG: 20161005 05:31:17
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:31:17,344
MSG: 20161005 05:31:17
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:31:17,344 LOG| 20161005 05:31:17|Shared Memory|Opened shared memory with the
name 31_2
|
```

```
2016-10-05 05:31:22,907
MSG: 20161005 05:31:22
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28395 MB (was 28312).

2016-10-05 05:42:39,722
MSG: 20161005 05:42:39
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:39,785 LOG| 20161005 05:42:39|Processing Historical EventSet| Chunk 1:
YearStart: 37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 05:42:40,238
MSG: 20161005 05:42:40
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:40,332 LOG| 20161005 05:42:40|Processing RDS EventSet| Chunk 1: YearStart:
37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 05:42:40,425
MSG: 20161005 05:42:40
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:42:40,472
MSG: 20161005 05:42:40
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:42:41,097 LOG| 20161005 05:42:41|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:31:33,970
MSG: 20161005 05:31:33

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [40626 - 43750] years
************************************************


2016-10-05 05:31:34,407
MSG: 20161005 05:31:34
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:31:34,407
MSG: 20161005 05:31:34
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:31:34,407 LOG| 20161005 05:31:34|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:31:40,845
MSG: 20161005 05:31:40
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28142 MB (was 28222).

2016-10-05 05:42:58,426
MSG: 20161005 05:42:58
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:42:58,567 LOG| 20161005 05:42:58|Processing Historical EventSet| Chunk 1:
YearStart: 40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 05:42:59,036
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MSG: 20161005 05:42:59
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:42:59,161 LOG| 20161005 05:42:59|Processing RDS EventSet| Chunk 1: YearStart:
40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 05:42:59,989
MSG: 20161005 05:42:59
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:43:00,036
MSG: 20161005 05:43:00
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:43:00,645 LOG| 20161005 05:43:00|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:32:50,707
MSG: 20161005 05:32:50

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [43751 - 46875] years
************************************************


2016-10-05 05:32:51,128
MSG: 20161005 05:32:51
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:32:51,128
MSG: 20161005 05:32:51
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:32:51,128 LOG| 20161005 05:32:51|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:32:57,222
MSG: 20161005 05:32:57
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28148 MB (was 28238).

2016-10-05 05:45:20,036
MSG: 20161005 05:45:20
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:45:20,317 LOG| 20161005 05:45:20|Processing Historical EventSet| Chunk 1:
YearStart: 43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 05:45:20,973
MSG: 20161005 05:45:20
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:45:21,067 LOG| 20161005 05:45:21|Processing RDS EventSet| Chunk 1: YearStart:
43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 05:45:22,176
MSG: 20161005 05:45:22
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:45:22,223
MSG: 20161005 05:45:22
Total location's terms for analysis
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         expected:               39247,
         loaded:                 39247,

2016-10-05 05:45:23,051 LOG| 20161005 05:45:23|Async
Saving|CompleteSavingResults:Event_Results Saved
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HPC Host Log
2016-10-05 05:33:26,865
MSG: 20161005 05:33:26

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [46876 - 50000] years
************************************************


2016-10-05 05:33:27,428
MSG: 20161005 05:33:27
Waiting for Shared memory event LossEngineSM_Event31_2 to be signaled


2016-10-05 05:33:27,428
MSG: 20161005 05:33:27
Shared memory event LossEngineSM_Event31_2 is signaled


2016-10-05 05:33:27,428 LOG| 20161005 05:33:27|Shared Memory|Opened shared memory with the
name 31_2
|

2016-10-05 05:33:33,960
MSG: 20161005 05:33:33
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 28425 MB (was 28507).

2016-10-05 05:45:41,029
MSG: 20161005 05:45:41
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:45:41,248 LOG| 20161005 05:45:41|Processing Historical EventSet| Chunk 1:
YearStart: 46, MaxYearsToSimulate: 9 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 05:45:43,763
MSG: 20161005 05:45:43
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:45:43,888 LOG| 20161005 05:45:43|Processing RDS EventSet| Chunk 1: YearStart:
46, MaxYearsToSimulate: 6 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 05:45:46,138
MSG: 20161005 05:45:46
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:45:46,185
MSG: 20161005 05:45:46
Total location's terms for analysis
         expected:               39247,
         loaded:                 39247,

2016-10-05 05:45:47,013 LOG| 20161005 05:45:47|Async
Saving|CompleteSavingResults:Event_Results Saved
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HPC Host Log
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HPC Host Log
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HPC Host Log
2016-10-05 05:02:23,317
MSG: 20161005 05:02:23

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN1"
Job Assignment:           [1 - 3125] years
************************************************


2016-10-05 05:02:24,489 LOG| 20161005 05:02:24|Shared Memory|Shared memory is created with a
name 31_1
|

2016-10-05 05:03:50,007
MSG: 20161005 05:03:50
 Chunk 1 loaded. Time 84 s, policy 1 - 3, available memory: 30177 MB (was 30757).

2016-10-05 05:29:29,393
MSG: 20161005 05:29:29
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:29:30,502 LOG| 20161005 05:29:30|Processing Historical EventSet| Chunk 1:
YearStart: 1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 05:29:31,737
MSG: 20161005 05:29:31
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:29:31,924 LOG| 20161005 05:29:31|Processing RDS EventSet| Chunk 1: YearStart:
1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 05:29:31,924
MSG: 20161005 05:29:31
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:29:32,018
MSG: 20161005 05:29:32
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:29:33,174 LOG| 20161005 05:29:33|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,719
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN2"
Job Assignment:           [3126 - 6250] years
************************************************


2016-10-05 05:02:28,140
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled
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2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,172
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27701 MB (was 28894).

2016-10-05 05:30:27,753
MSG: 20161005 05:30:27
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:27,831 LOG| 20161005 05:30:27|Processing Historical EventSet| Chunk 1:
YearStart: 4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 05:30:28,363
MSG: 20161005 05:30:28
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:28,425 LOG| 20161005 05:30:28|Processing RDS EventSet| Chunk 1: YearStart:
4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 05:30:28,425
MSG: 20161005 05:30:28
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:28,519
MSG: 20161005 05:30:28
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:29,722 LOG| 20161005 05:30:29|Async
Saving|CompleteSavingResults:Event_Results Saved
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HPC Host Log
2016-10-05 05:02:24,156
MSG: 20161005 05:02:24

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [6251 - 9375] years
************************************************


2016-10-05 05:02:25,234 LOG| 20161005 05:02:25|Shared Memory|Shared memory is created with a
name 31_1
|

2016-10-05 05:03:50,031
MSG: 20161005 05:03:50
 Chunk 1 loaded. Time 83 s, policy 1 - 3, available memory: 27741 MB (was 30139).

2016-10-05 05:32:24,675
MSG: 20161005 05:32:24
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:32:25,097 LOG| 20161005 05:32:25|Processing Historical EventSet| Chunk 1:
YearStart: 7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|

2016-10-05 05:32:28,691
MSG: 20161005 05:32:28
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:32:28,878 LOG| 20161005 05:32:28|Processing RDS EventSet| Chunk 1: YearStart:
7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|
```

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2016-10-05 05:32:28,878
MSG: 20161005 05:32:28
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:32:28,972
MSG: 20161005 05:32:28
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:32:30,300 LOG| 20161005 05:32:30|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,281
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [9376 - 12500] years
************************************************


2016-10-05 05:02:27,765
MSG: 20161005 05:02:27
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,141
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27703 MB (was 28894).

2016-10-05 05:30:09,831
MSG: 20161005 05:30:09
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:09,894 LOG| 20161005 05:30:09|Processing Historical EventSet| Chunk 1:
YearStart: 10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|

2016-10-05 05:30:11,300
MSG: 20161005 05:30:11
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:11,425 LOG| 20161005 05:30:11|Processing RDS EventSet| Chunk 1: YearStart:
10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|

2016-10-05 05:30:11,425
MSG: 20161005 05:30:11
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:11,519
MSG: 20161005 05:30:11
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:12,894 LOG| 20161005 05:30:12|Async
Saving|CompleteSavingResults:Event_Results Saved
|
```

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HPC Host Log
2016-10-05 05:02:27,328
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [12501 - 15625] years
************************************************


2016-10-05 05:02:27,781
MSG: 20161005 05:02:27
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,141
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27703 MB (was 28894).

2016-10-05 05:30:00,941
MSG: 20161005 05:30:00
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:01,066 LOG| 20161005 05:30:01|Processing Historical EventSet| Chunk 1:
YearStart: 13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 05:30:02,253
MSG: 20161005 05:30:02
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:02,362 LOG| 20161005 05:30:02|Processing RDS EventSet| Chunk 1: YearStart:
13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 05:30:02,362
MSG: 20161005 05:30:02
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:02,456
MSG: 20161005 05:30:02
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:03,800 LOG| 20161005 05:30:03|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,484
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [15626 - 18750] years
************************************************
```

```
2016-10-05 05:02:27,922
MSG: 20161005 05:02:27
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,141
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27703 MB (was 28894).

2016-10-05 05:30:18,800
MSG: 20161005 05:30:18
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:18,863 LOG| 20161005 05:30:18|Processing Historical EventSet| Chunk 1:
YearStart: 16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 05:30:22,144
MSG: 20161005 05:30:22
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:22,284 LOG| 20161005 05:30:22|Processing RDS EventSet| Chunk 1: YearStart:
16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 05:30:22,284
MSG: 20161005 05:30:22
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:22,363
MSG: 20161005 05:30:22
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:23,581 LOG| 20161005 05:30:23|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,640
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [18751 - 21875] years
************************************************


2016-10-05 05:02:28,078
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
```

```
name 31_1
|

2016-10-05 05:03:52,156
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27702 MB (was 28894).

2016-10-05 05:30:31,331
MSG: 20161005 05:30:31
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:31,394 LOG| 20161005 05:30:31|Processing Historical EventSet| Chunk 1:
YearStart: 19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 05:30:32,253
MSG: 20161005 05:30:32
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:32,331 LOG| 20161005 05:30:32|Processing RDS EventSet| Chunk 1: YearStart:
19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 05:30:32,331
MSG: 20161005 05:30:32
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:32,409
MSG: 20161005 05:30:32
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:33,628 LOG| 20161005 05:30:33|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,750
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [21876 - 25000] years
************************************************


2016-10-05 05:02:28,140
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,141
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27703 MB (was 28894).

2016-10-05 05:29:48,909
MSG: 20161005 05:29:48
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:29:49,269 LOG| 20161005 05:29:49|Processing Historical EventSet| Chunk 1:
YearStart: 22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|
```

```
2016-10-05 05:29:50,644
MSG: 20161005 05:29:50
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:29:50,784 LOG| 20161005 05:29:50|Processing RDS EventSet| Chunk 1: YearStart:
22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|

2016-10-05 05:29:50,784
MSG: 20161005 05:29:50
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:29:50,862
MSG: 20161005 05:29:50
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:29:52,019 LOG| 20161005 05:29:52|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:24,562
MSG: 20161005 05:02:24

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [25001 - 28125] years
************************************************


2016-10-05 05:02:25,219
MSG: 20161005 05:02:25
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,016
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,016 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:52,156
MSG: 20161005 05:03:52
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 27702 MB (was 28894).

2016-10-05 05:30:01,769
MSG: 20161005 05:30:01
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:01,831 LOG| 20161005 05:30:01|Processing Historical EventSet| Chunk 1:
YearStart: 25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 05:30:02,628
MSG: 20161005 05:30:02
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:02,706 LOG| 20161005 05:30:02|Processing RDS EventSet| Chunk 1: YearStart:
25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 05:30:02,706
MSG: 20161005 05:30:02
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:02,784
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MSG: 20161005 05:30:02
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:04,144 LOG| 20161005 05:30:04|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,208
MSG: 20161005 05:02:28

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [28126 - 31250] years
************************************************


2016-10-05 05:02:28,599
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:51,572
MSG: 20161005 05:03:51
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28019 MB (was 29024).

2016-10-05 05:30:16,498
MSG: 20161005 05:30:16
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:16,560 LOG| 20161005 05:30:16|Processing Historical EventSet| Chunk 1:
YearStart: 28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 05:30:17,591
MSG: 20161005 05:30:17
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:17,654 LOG| 20161005 05:30:17|Processing RDS EventSet| Chunk 1: YearStart:
28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 05:30:17,654
MSG: 20161005 05:30:17
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:17,732
MSG: 20161005 05:30:17
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:19,013 LOG| 20161005 05:30:19|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,818
```

```
MSG: 20161005 05:02:28

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [31251 - 34375] years
************************************************


2016-10-05 05:02:29,365
MSG: 20161005 05:02:29
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:51,587
MSG: 20161005 05:03:51
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28019 MB (was 29025).

2016-10-05 05:33:04,396
MSG: 20161005 05:33:04
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:33:04,614 LOG| 20161005 05:33:04|Processing Historical EventSet| Chunk 1:
YearStart: 31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 05:33:05,099
MSG: 20161005 05:33:05
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:33:05,193 LOG| 20161005 05:33:05|Processing RDS EventSet| Chunk 1: YearStart:
31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 05:33:05,193
MSG: 20161005 05:33:05
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:33:05,271
MSG: 20161005 05:33:05
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:33:06,630 LOG| 20161005 05:33:06|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,130
MSG: 20161005 05:02:28

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [34376 - 37500] years
************************************************


2016-10-05 05:02:28,536
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled
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2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:51,603
MSG: 20161005 05:03:51
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28017 MB (was 29024).

2016-10-05 05:30:10,997
MSG: 20161005 05:30:10
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:11,216 LOG| 20161005 05:30:11|Processing Historical EventSet| Chunk 1:
YearStart: 34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 05:30:11,560
MSG: 20161005 05:30:11
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:11,653 LOG| 20161005 05:30:11|Processing RDS EventSet| Chunk 1: YearStart:
34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 05:30:11,653
MSG: 20161005 05:30:11
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:11,732
MSG: 20161005 05:30:11
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:13,185 LOG| 20161005 05:30:13|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,099
MSG: 20161005 05:02:28

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [37501 - 40625] years
************************************************


2016-10-05 05:02:28,505
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:51,634
MSG: 20161005 05:03:51
```

```
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28016 MB (was 29025).

2016-10-05 05:30:54,952
MSG: 20161005 05:30:54
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:55,187 LOG| 20161005 05:30:55|Processing Historical EventSet| Chunk 1:
YearStart: 37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 05:30:56,343
MSG: 20161005 05:30:56
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:56,421 LOG| 20161005 05:30:56|Processing RDS EventSet| Chunk 1: YearStart:
37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 05:30:56,562
MSG: 20161005 05:30:56
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:56,640
MSG: 20161005 05:30:56
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:58,030 LOG| 20161005 05:30:58|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:27,833
MSG: 20161005 05:02:27

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [40626 - 43750] years
************************************************


2016-10-05 05:02:28,396 LOG| 20161005 05:02:28|Shared Memory|Shared memory is created with a
name 31_1
|

2016-10-05 05:03:50,087
MSG: 20161005 05:03:50
 Chunk 1 loaded. Time 80 s, policy 1 - 3, available memory: 28038 MB (was 30033).

2016-10-05 05:30:29,123
MSG: 20161005 05:30:29
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:29,295 LOG| 20161005 05:30:29|Processing Historical EventSet| Chunk 1:
YearStart: 40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 05:30:30,201
MSG: 20161005 05:30:30
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:30,373 LOG| 20161005 05:30:30|Processing RDS EventSet| Chunk 1: YearStart:
40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 05:30:32,529
MSG: 20161005 05:30:32
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:32,607
MSG: 20161005 05:30:32
Total location's terms for analysis
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         expected:               79984,
         loaded:                 79984,

2016-10-05 05:30:33,951 LOG| 20161005 05:30:33|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,161
MSG: 20161005 05:02:28

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [43751 - 46875] years
************************************************


2016-10-05 05:02:28,567
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled


2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled


2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the
name 31_1
|

2016-10-05 05:03:51,666
MSG: 20161005 05:03:51
 Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28015 MB (was 29025).

2016-10-05 05:31:09,203
MSG: 20161005 05:31:09
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:31:09,265 LOG| 20161005 05:31:09|Processing Historical EventSet| Chunk 1:
YearStart: 43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 05:31:10,515
MSG: 20161005 05:31:10
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:31:10,562 LOG| 20161005 05:31:10|Processing RDS EventSet| Chunk 1: YearStart:
43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 05:31:13,484
MSG: 20161005 05:31:13
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:31:13,562
MSG: 20161005 05:31:13
Total location's terms for analysis
         expected:               79984,
         loaded:                 79984,

2016-10-05 05:31:14,719 LOG| 20161005 05:31:14|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:02:28,036
MSG: 20161005 05:02:28
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Engine Version: "4.0.0.0"

****
Server: "CSG41FLCMCN3"
Job Assignment: [46876 - 50000] years
****

2016-10-05 05:02:28,442
MSG: 20161005 05:02:28
Waiting for Shared memory event LossEngineSM_Event31_1 to be signaled

2016-10-05 05:03:45,072
MSG: 20161005 05:03:45
Shared memory event LossEngineSM_Event31_1 is signaled

2016-10-05 05:03:45,072 LOG| 20161005 05:03:45|Shared Memory|Opened shared memory with the name 31_1
|

2016-10-05 05:03:51,587
MSG: 20161005 05:03:51
Chunk 1 loaded. Time 5 s, policy 1 - 3, available memory: 28019 MB (was 29024).

2016-10-05 05:30:28,420
MSG: 20161005 05:30:28
Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 05:30:28,529 LOG| 20161005 05:30:28|Processing Historical EventSet| Chunk 1: YearStart: 46, MaxYearsToSimulate: 9 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 05:30:33,561
MSG: 20161005 05:30:33
Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 05:30:33,623 LOG| 20161005 05:30:33|Processing RDS EventSet| Chunk 1: YearStart: 46, MaxYearsToSimulate: 6 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 05:30:39,092
MSG: 20161005 05:30:39
Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 05:30:39,170
MSG: 20161005 05:30:39
Total location's terms for analysis
expected: 79984,
loaded: 79984,

2016-10-05 05:30:40,420 LOG| 20161005 05:30:40|Async Saving|CompleteSavingResults:Event_Results Saved
|

HPC Host Log

HPC Host Log

HPC Host Log

HPC Host Log
2016-10-05 05:42:47,074
MSG: 20161005 05:42:47

Engine Version: "4.0.0.0"

****
Server: "CSG41FLCMCN2"

```
Job Assignment:            [1 - 3125] years
************************************************


2016-10-05 05:42:47,637 LOG| 20161005 05:42:47|Shared Memory|Shared memory is created with a
name 31_3
|

2016-10-05 05:44:26,277
MSG: 20161005 05:44:26
 Chunk 1 loaded. Time 97 s, policy 1 - 1, available memory: 26878 MB (was 29359).

2016-10-05 06:18:49,799
MSG: 20161005 06:18:49
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:18:50,017 LOG| 20161005 06:18:50|Processing Historical EventSet| Chunk 1:
YearStart: 1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 06:18:51,424
MSG: 20161005 06:18:51
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:18:51,517 LOG| 20161005 06:18:51|Processing RDS EventSet| Chunk 1: YearStart:
1, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 0|

2016-10-05 06:18:51,517
MSG: 20161005 06:18:51
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:18:51,627
MSG: 20161005 06:18:51
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:18:53,346 LOG| 20161005 06:18:53|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:47,481
MSG: 20161005 05:42:47

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [3126 - 6250] years
************************************************


2016-10-05 05:42:47,871
MSG: 20161005 05:42:47
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,340
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26881 MB (was 28354).

2016-10-05 06:18:51,627
```

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MSG: 20161005 06:18:51
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:18:51,689 LOG| 20161005 06:18:51|Processing Historical EventSet| Chunk 1:
YearStart: 4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 06:18:52,408
MSG: 20161005 06:18:52
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:18:52,471 LOG| 20161005 06:18:52|Processing RDS EventSet| Chunk 1: YearStart:
4, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 1|

2016-10-05 06:18:52,471
MSG: 20161005 06:18:52
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:18:52,596
MSG: 20161005 06:18:52
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:18:54,455 LOG| 20161005 06:18:54|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:47,153
MSG: 20161005 05:42:47

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [6251 - 9375] years
************************************************


2016-10-05 05:42:47,637
MSG: 20161005 05:42:47
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,293
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26879 MB (was 28354).

2016-10-05 06:19:10,080
MSG: 20161005 06:19:10
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:10,158 LOG| 20161005 06:19:10|Processing Historical EventSet| Chunk 1:
YearStart: 7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|

2016-10-05 06:19:14,799
MSG: 20161005 06:19:14
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:14,861 LOG| 20161005 06:19:14|Processing RDS EventSet| Chunk 1: YearStart:
7, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 2|
```

```
2016-10-05 06:19:14,861
MSG: 20161005 06:19:14
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:14,971
MSG: 20161005 06:19:14
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:16,752 LOG| 20161005 06:19:16|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:47,512
MSG: 20161005 05:42:47

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [9376 - 12500] years
************************************************


2016-10-05 05:42:47,996
MSG: 20161005 05:42:47
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,247
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26876 MB (was 28354).

2016-10-05 06:19:26,392
MSG: 20161005 06:19:26
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:26,486 LOG| 20161005 06:19:26|Processing Historical EventSet| Chunk 1:
YearStart: 10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|

2016-10-05 06:19:28,096
MSG: 20161005 06:19:28
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:28,158 LOG| 20161005 06:19:28|Processing RDS EventSet| Chunk 1: YearStart:
10, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 3|

2016-10-05 06:19:28,158
MSG: 20161005 06:19:28
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:28,283
MSG: 20161005 06:19:28
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:29,892 LOG| 20161005 06:19:29|Async
Saving|CompleteSavingResults:Event_Results Saved
|
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HPC Host Log
2016-10-05 05:42:47,700
MSG: 20161005 05:42:47

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [12501 - 15625] years
************************************************


2016-10-05 05:42:48,090
MSG: 20161005 05:42:48
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,247
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26876 MB (was 28354).

2016-10-05 06:19:00,064
MSG: 20161005 06:19:00
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:00,158 LOG| 20161005 06:19:00|Processing Historical EventSet| Chunk 1:
YearStart: 13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 06:19:01,908
MSG: 20161005 06:19:01
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:01,971 LOG| 20161005 06:19:01|Processing RDS EventSet| Chunk 1: YearStart:
13, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 4|

2016-10-05 06:19:01,971
MSG: 20161005 06:19:01
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:02,080
MSG: 20161005 06:19:02
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:03,861 LOG| 20161005 06:19:03|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:47,473
MSG: 20161005 05:42:47

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [15626 - 18750] years
************************************************
```

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2016-10-05 05:42:48,160 LOG| 20161005 05:42:48|Shared Memory|Shared memory is created with a
name 31_3
|

2016-10-05 05:44:29,228
MSG: 20161005 05:44:29
 Chunk 1 loaded. Time 100 s, policy 1 - 1, available memory: 27307 MB (was 28983).

2016-10-05 06:20:35,002
MSG: 20161005 06:20:35
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:20:35,299 LOG| 20161005 06:20:35|Processing Historical EventSet| Chunk 1:
YearStart: 16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 06:20:39,315
MSG: 20161005 06:20:39
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:20:39,377 LOG| 20161005 06:20:39|Processing RDS EventSet| Chunk 1: YearStart:
16, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 5|

2016-10-05 06:20:39,377
MSG: 20161005 06:20:39
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:20:39,518
MSG: 20161005 06:20:39
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:20:41,252 LOG| 20161005 06:20:41|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:48,387
MSG: 20161005 05:42:48

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN2"
Job Assignment:            [18751 - 21875] years
************************************************


2016-10-05 05:42:48,887
MSG: 20161005 05:42:48
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,325
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26879 MB (was 28353).

2016-10-05 06:20:23,893
MSG: 20161005 06:20:23
 Chunk 1: Analysis of Stochastic Eventsets completed...
```

```
2016-10-05 06:20:24,127 LOG| 20161005 06:20:24|Processing Historical EventSet| Chunk 1:
YearStart: 19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 06:20:25,283
MSG: 20161005 06:20:25
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:20:25,361 LOG| 20161005 06:20:25|Processing RDS EventSet| Chunk 1: YearStart:
19, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 6|

2016-10-05 06:20:25,361
MSG: 20161005 06:20:25
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:20:25,471
MSG: 20161005 06:20:25
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:20:27,080 LOG| 20161005 06:20:27|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:53,707
MSG: 20161005 05:42:53

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [21876 - 25000] years
************************************************


2016-10-05 05:42:54,082
MSG: 20161005 05:42:54
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:24,212
MSG: 20161005 05:44:24
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:24,212 LOG| 20161005 05:44:24|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:31,072
MSG: 20161005 05:44:31
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 27296 MB (was 28538).

2016-10-05 06:20:41,361
MSG: 20161005 06:20:41
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:20:41,439 LOG| 20161005 06:20:41|Processing Historical EventSet| Chunk 1:
YearStart: 22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|

2016-10-05 06:20:43,096
MSG: 20161005 06:20:43
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:20:43,143 LOG| 20161005 06:20:43|Processing RDS EventSet| Chunk 1: YearStart:
22, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 7|

2016-10-05 06:20:43,143
MSG: 20161005 06:20:43
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 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:20:43,268
MSG: 20161005 06:20:43
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:20:45,049 LOG| 20161005 06:20:45|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:42:53,998
MSG: 20161005 05:42:53

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN2"
Job Assignment:           [25001 - 28125] years
************************************************


2016-10-05 05:42:54,357
MSG: 20161005 05:42:54
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:21,261
MSG: 20161005 05:44:21
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:21,277 LOG| 20161005 05:44:21|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:28,278
MSG: 20161005 05:44:28
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26878 MB (was 28354).

2016-10-05 06:19:17,502
MSG: 20161005 06:19:17
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:17,596 LOG| 20161005 06:19:17|Processing Historical EventSet| Chunk 1:
YearStart: 25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 06:19:18,455
MSG: 20161005 06:19:18
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:18,517 LOG| 20161005 06:19:18|Processing RDS EventSet| Chunk 1: YearStart:
25, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 8|

2016-10-05 06:19:18,517
MSG: 20161005 06:19:18
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:18,627
MSG: 20161005 06:19:18
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:20,314 LOG| 20161005 06:19:20|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:43:00,411
MSG: 20161005 05:43:00

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [28126 - 31250] years
************************************************


2016-10-05 05:43:00,911
MSG: 20161005 05:43:00
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:24,212
MSG: 20161005 05:44:24
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:24,212 LOG| 20161005 05:44:24|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:31,056
MSG: 20161005 05:44:31
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 27286 MB (was 28538).

2016-10-05 06:19:56,333
MSG: 20161005 06:19:56
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:56,411 LOG| 20161005 06:19:56|Processing Historical EventSet| Chunk 1:
YearStart: 28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 06:19:57,786
MSG: 20161005 06:19:57
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:57,849 LOG| 20161005 06:19:57|Processing RDS EventSet| Chunk 1: YearStart:
28, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 9|

2016-10-05 06:19:57,849
MSG: 20161005 06:19:57
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:57,958
MSG: 20161005 06:19:57
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:59,708 LOG| 20161005 06:19:59|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:43:05,483
MSG: 20161005 05:43:05

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN1"
Job Assignment:            [31251 - 34375] years
************************************************
```

2016-10-05 05:43:05,921 LOG| 20161005 05:43:05|Shared Memory|Shared memory is created with a name 31_3
|

2016-10-05 05:44:46,297
MSG: 20161005 05:44:46
 Chunk 1 loaded. Time 99 s, policy 1 - 1, available memory: 30210 MB (was 30743).

2016-10-05 06:21:25,020
MSG: 20161005 06:21:25
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:21:25,348 LOG| 20161005 06:21:25|Processing Historical EventSet| Chunk 1: YearStart: 31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 06:21:25,942
MSG: 20161005 06:21:25
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:21:26,114 LOG| 20161005 06:21:26|Processing RDS EventSet| Chunk 1: YearStart: 31, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 10|

2016-10-05 06:21:26,114
MSG: 20161005 06:21:26
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:21:26,239
MSG: 20161005 06:21:26
Total location's terms for analysis
         expected: 116639,
         loaded: 116639,

2016-10-05 06:21:27,848 LOG| 20161005 06:21:27|Async Saving|CompleteSavingResults:Event_Results Saved
|

HPC Host Log
2016-10-05 05:43:19,662
MSG: 20161005 05:43:19

Engine Version: "4.0.0.0"

****
Server: "CSG41FLCMCN3"
Job Assignment: [34376 - 37500] years
****

2016-10-05 05:43:20,193
MSG: 20161005 05:43:20
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled

2016-10-05 05:44:24,212
MSG: 20161005 05:44:24
Shared memory event LossEngineSM_Event31_3 is signaled

2016-10-05 05:44:24,212 LOG| 20161005 05:44:24|Shared Memory|Opened shared memory with the name 31_3
|

2016-10-05 05:44:31,041
MSG: 20161005 05:44:31
 Chunk 1 loaded. Time 5 s, policy 1 - 1, available memory: 27281 MB (was 28538).

2016-10-05 06:19:53,834
MSG: 20161005 06:19:53
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:53,943 LOG| 20161005 06:19:53|Processing Historical EventSet| Chunk 1:

YearStart: 34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 06:19:54,427
MSG: 20161005 06:19:54
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:54,490 LOG| 20161005 06:19:54|Processing RDS EventSet| Chunk 1: YearStart:
34, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 11|

2016-10-05 06:19:54,490
MSG: 20161005 06:19:54
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:54,599
MSG: 20161005 06:19:54
Total location's terms for analysis
         expected: 116639,
         loaded: 116639,

2016-10-05 06:19:56,224 LOG| 20161005 06:19:56|Async
Saving|CompleteSavingResults:Event_Results Saved
|

HPC Host Log
2016-10-05 05:43:26,553
MSG: 20161005 05:43:26

Engine Version: "4.0.0.0"

****
Server: "CSG41FLCMCN3"
Job Assignment: [37501 - 40625] years
****

2016-10-05 05:43:26,881
MSG: 20161005 05:43:26
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled

2016-10-05 05:44:24,212
MSG: 20161005 05:44:24
Shared memory event LossEngineSM_Event31_3 is signaled

2016-10-05 05:44:24,212 LOG| 20161005 05:44:24|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:31,072
MSG: 20161005 05:44:31
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 27290 MB (was 28538).

2016-10-05 06:20:18,112
MSG: 20161005 06:20:18
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:20:18,300 LOG| 20161005 06:20:18|Processing Historical EventSet| Chunk 1:
YearStart: 37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 06:20:19,566
MSG: 20161005 06:20:19
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:20:19,643 LOG| 20161005 06:20:19|Processing RDS EventSet| Chunk 1: YearStart:
37, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 12|

2016-10-05 06:20:19,847
MSG: 20161005 06:20:19
 Chunk 1: Analysis of RDS Eventsets completed...

```
2016-10-05 06:20:19,971
MSG: 20161005 06:20:19
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:20:21,643 LOG| 20161005 06:20:21|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:43:40,585
MSG: 20161005 05:43:40

Engine Version:          "4.0.0.0"

************************************************
Server:                    "CSG41FLCMCN3"
Job Assignment:            [40626 - 43750] years
************************************************


2016-10-05 05:43:40,991
MSG: 20161005 05:43:40
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:44:24,212
MSG: 20161005 05:44:24
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:44:24,212 LOG| 20161005 05:44:24|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:44:31,056
MSG: 20161005 05:44:31
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 27287 MB (was 28538).

2016-10-05 06:19:42,084
MSG: 20161005 06:19:42
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:19:42,288 LOG| 20161005 06:19:42|Processing Historical EventSet| Chunk 1:
YearStart: 40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 06:19:43,725
MSG: 20161005 06:19:43
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:19:43,819 LOG| 20161005 06:19:43|Processing RDS EventSet| Chunk 1: YearStart:
40, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 13|

2016-10-05 06:19:46,740
MSG: 20161005 06:19:46
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:19:46,865
MSG: 20161005 06:19:46
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:19:48,443 LOG| 20161005 06:19:48|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
```

```
2016-10-05 05:45:43,287
MSG: 20161005 05:45:43

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN2"
Job Assignment:           [43751 - 46875] years
************************************************


2016-10-05 05:45:43,724
MSG: 20161005 05:45:43
Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled


2016-10-05 05:45:43,724
MSG: 20161005 05:45:43
Shared memory event LossEngineSM_Event31_3 is signaled


2016-10-05 05:45:43,724 LOG| 20161005 05:45:43|Shared Memory|Opened shared memory with the
name 31_3
|

2016-10-05 05:45:51,397
MSG: 20161005 05:45:51
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26310 MB (was 26557).

2016-10-05 06:21:48,205
MSG: 20161005 06:21:48
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:21:48,440 LOG| 20161005 06:21:48|Processing Historical EventSet| Chunk 1:
YearStart: 43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 06:21:50,080
MSG: 20161005 06:21:50
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:21:50,159 LOG| 20161005 06:21:50|Processing RDS EventSet| Chunk 1: YearStart:
43, MaxYearsToSimulate: 3 Numbers of Slice: 16 Slice Index: 14|

2016-10-05 06:21:53,783
MSG: 20161005 06:21:53
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:21:53,893
MSG: 20161005 06:21:53
Total location's terms for analysis
         expected:               116639,
         loaded:                 116639,

2016-10-05 06:21:55,705 LOG| 20161005 06:21:55|Async
Saving|CompleteSavingResults:Event_Results Saved
|

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HPC Host Log
2016-10-05 05:46:26,750
MSG: 20161005 05:46:26

Engine Version:          "4.0.0.0"

************************************************
Server:                   "CSG41FLCMCN3"
Job Assignment:           [46876 - 50000] years
************************************************


2016-10-05 05:46:27,203
MSG: 20161005 05:46:27
```

Waiting for Shared memory event LossEngineSM_Event31_3 to be signaled

2016-10-05 05:46:27,203
MSG: 20161005 05:46:27
Shared memory event LossEngineSM_Event31_3 is signaled

2016-10-05 05:46:27,203 LOG| 20161005 05:46:27|Shared Memory|Opened shared memory with the name 31_3
|

2016-10-05 05:46:34,250
MSG: 20161005 05:46:34
 Chunk 1 loaded. Time 6 s, policy 1 - 1, available memory: 26799 MB (was 27066).

2016-10-05 06:23:34,674
MSG: 20161005 06:23:34
 Chunk 1: Analysis of Stochastic Eventsets completed...

2016-10-05 06:23:34,909 LOG| 20161005 06:23:34|Processing Historical EventSet| Chunk 1: YearStart: 46, MaxYearsToSimulate: 9 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 06:23:41,987
MSG: 20161005 06:23:41
 Chunk 1: Analysis of Historical Eventsets completed...

2016-10-05 06:23:42,049 LOG| 20161005 06:23:42|Processing RDS EventSet| Chunk 1: YearStart: 46, MaxYearsToSimulate: 6 Numbers of Slice: 16 Slice Index: 15|

2016-10-05 06:23:50,002
MSG: 20161005 06:23:50
 Chunk 1: Analysis of RDS Eventsets completed...

2016-10-05 06:23:50,143
MSG: 20161005 06:23:50
Total location's terms for analysis
         expected: 116639,
         loaded: 116639,

2016-10-05 06:23:52,159 LOG| 20161005 06:23:52|Async Saving|CompleteSavingResults:Event_Results Saved
|

HPC Host Log

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Touchstone

o Analysis Header Info

Analysis Type:	Detailed Loss Analysis
Analysis Name:	FL_Form_A1_50K_Wind_DS_AP_ET_LocSum_Cov
Template Name:	AIR Default Loss Template
Analysis SID:	229
Result SID:	2
Activity ID:	565
HPC Job ID:	2163
Description:	N/A
User:	AIR-WORLDWIDE\i24270
Time Submitted:	08/06/2018 11:32:41
Time Started:	08/06/2018 11:32:41
Time Ended:	08/06/2018 11:54:19
Duration:	00:21:38
Status:	Completed

o Error/Warning Summary

o Fatal Error

None

o Ignorable Errors

None

o Exposures Modelled

Total
100% Replacement Value
100% Locations

o System Info

System Version:	6.0.0.4745
SQL Server Name:	CSGTS1DB1\SQL2016
HPC Head Node:	CSGTS1HN1

o Analysis Target Info

Analysis Target Type:	Portfolio
Analysis Target Name:	FormA-1_Notional_ZIP2016
Exposure View Filter:	Not Applied

Exposure Set(s):	Database : Exposure Set Name
	FCHLPM_15_TS6_Forms_Exp_NB : FormA1_Notional15_ZIP16_20160713

Analysis Statistics:	Analyzed
Policy Count:	3
Total Location Count:	2850
Property Location Count:	2850
Workers Location Count:	0
Layers Count:	0
SubLimits Count:	0
Reinsurance Count:	0
Total Replacement Value:	536,037,500

o Event Set Options

Event Set Name:	50K US AP (2017) - Standard

Event Set Type:	Stochastic
Event Filter:	Off
Demand Surge:	On
Custom Demand Surge:	No
Perils:	Tropical Cyclone - Wind

Hazard Models:	Model:	Model Version:	Catalog:	Catalog Version:	Events:	Scenarios:
AIR Hurricane Model for Hawaii	23	3.10.0	AIR Hurricane Model for Hawaii	04.01.0509	10330	50000
AIR Hurricane Model for Offshore Assets	27 (24)	1.11.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Hurricane Model for the U.S.	27 (21)	16.1.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Caribbean	27 (25)	9.1.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Central America	27 (67)	2.2.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000
AIR Tropical Cyclone Model for Mexico	27 (29)	1.0.0	AIR North Atlantic Basinwide Hurricane Model	17.00.0808	723844	50000

o Financial Model Options

Correlation:	Off
Disaggregation:	Off
Average Properties:	On
Invalid Con/Occ Pairs:	Ignore
Apply residential location terms:	AIR Default behavior
Intra-Policy Correlation factor:	0%
Inter-Policy Correlation factor:	0%

o Reinsurance Options

Program Name:	N/A
Order of application of Fac:	Apply and inure to the benefit of treaties
FAC Reinsurance Count:	0
Treaty Reinsurance Count:	0

o Custom Model Options

Custom Model:	N/A

o Output Options

Loss Perspectives:	Ground Up Retained Gross Net of Pre-CAT
Event Losses By:	Portfolio
Geography:	Event Total
Summary (AAL Only):	Location Summary
Loss Details:	Coverage
Save By Zone:	Off
Zone By Peril:	Off
Retain Annual EP By Zone:	Off
Auto Export CLF:	No

o Analysis Management Options

Min-Max Cores:	1-6

Scheduled On:	Execute Immediately
Priority:	Normal
Processing Resource:	OnPremises
Result Server:	CSGTS1DB1\SQL2016
Result Database:	FCHLPM_15_TS6_Forms_Res_NB
Results Currency Set:	AIR Default
Results Currency:	USD
Move Marine Craft Geocodes:	Off
Commodity Prices	
Gas:	2.69
Oil:	51.86

o Flexibility Options

Not available

o Terrorism Options

Terrorism Not Covered - Coverage solely provided by Standard Fire Policies (SFP)

o Physical Properties Info

Physical Properties computation completed at 08/06/2018 11:34:29
Time taken for Physical Properties computation: 00:00:54
Time taken for Post Processing of Physical Properties: 00:00:02
Total time taken for Physical Properties processing: 00:00:57
Physical properties were computed for all locations