

RULES – IMPLEMENTATION

JUNE 17, 2019

COMMERCIAL MULTIPLE LINE

LI-ML-2019-027

## ALABAMA COMMERCIAL PACKAGE POLICY REVISED PACKAGE MODIFICATION FACTOR REVISION TO BE IMPLEMENTED; EXCEL WORKBOOK NEWLY INCLUDED

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### KEY MESSAGE

Revised Commercial Package Policy package modification factors for an overall statewide change of **-1.6%** to be implemented.

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### BACKGROUND

In circular [LI-ML-2019-004](#), we provided you with information about the Commercial Package Policy modification factor experience review.

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### ISO ACTION

We are implementing ML-2019-RLA1, which presents a review of Commercial Package Policy modification factors experience. Refer to the attachment(s) for complete details.

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### EFFECTIVE DATE

The ISO revision is subject to the following rule of application:

These changes are applicable to all policies written on or after December 1, 2019.

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### COMPANY ACTION

If you have authorized us to file on your behalf and decide:

- To use our revision and effective date, you are not required to file anything with the Insurance Department.
- To use our revision with a different effective date, to use our revision with modification, or to not use our revision, you must make an appropriate submission with the Insurance Department.

For guidance on submission requirements, consult the ISO State Filing Handbook.

WE WILL SUBMIT THIS REVISION TO THE INSURANCE DEPARTMENT ON **NOVEMBER 5, 2019.** IF STATE FILING REQUIREMENTS DICTATE THAT YOU MAKE A SUBMISSION WITH THE INSURANCE DEPARTMENT, DO NOT SUBMIT IT PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Designation Number **ML-2019-RLA1**, NOT this circular number. Communications with the regulator concerning a filing affecting multiple lines of business (i.e., CL, PL, AL filing designation ) should specify the line(s) of business that you are addressing.

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## RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

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## POLICYHOLDER NOTIFICATION

If you decide to implement this revision, you should check all applicable laws for the state(s) to which this revision applies, to determine whether or not a specific policyholder notice requirement may apply. Please note that circular [LI-CL-2018-044](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

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## REVISION DISTRIBUTION

We will issue a Notice to Manualholders with an edition date of 12-19 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

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## REFERENCE(S)

- [LI-ML-2019-004](#) (04/03/2019) Commercial Package Policy Experience Reviewed By Staff
- [LI-CL-2018-044](#) (11/27/2018) Revised Lead Time Requirements Listing

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## ATTACHMENT(S)

- Filing [ML-2019-RLA1](#)
- Excel Workbook

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## FILES AVAILABLE FOR DOWNLOAD

To download all files associated with this circular, including attachments in the full circular PDF and/or any additional files not included in the PDF, search for the circular number on [ISOnet Circulars](#). Then click the Word/Excel link under the Full Circular column on the Search Results screen.

Please note that in some instances, not all files listed in the Attachment(s) block (if applicable) are included in the PDF.

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## DATA QUALITY

Statistical plan data reported to ISO is first processed through a system of rigorous automated data verification procedures so that only valid data would be used for ratemaking. Subsequent to this initial data submission review, additional analyses on the statistical plan data involving an even more customized data review for this line was performed by staff. During these processes, various data records were excluded from the review. The ISO staff responsible for this circular also reviewed the data for reasonableness.

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## ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

The American Academy of Actuaries' "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" requires that an actuary issuing a Statement of Actuarial Opinion should include an acknowledgment with the opinion that he/she has met the qualification standards of the AAA. ISO considers this rule revision a Statement of Actuarial Opinion; therefore we are including the following acknowledgment:

I, Rimma Maasbach, am an Actuarial Consultant in Actuarial Operations for ISO, and I, Bei Zhou, am an Actuarial Product Director for Commercial Property for ISO. We are jointly responsible for the content of this Statement of Actuarial Opinion. We are both members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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## CONTACT INFORMATION

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Callers outside the United States, Canada, and the Caribbean may contact us using our global toll-free number (International Access Code + 800 48977489). For information on all ISO products, visit us at [www.verisk.com/iso](http://www.verisk.com/iso). To keep abreast of the latest Insurance Lines Services updates, view [www.verisk.com/ils](http://www.verisk.com/ils).

# ALABAMA

## ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

### COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

#### EXECUTIVE SUMMARY

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#### PURPOSE

This document:

- presents a review of advisory Package Modification Factors (PMFs). PMFs are relativity factors used to adjust monoline loss costs as appropriate for multiline risks.
  - provides the analyses used to derive these advisory PMFs.
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#### PMF CHANGES

The proposed Commercial Package Policy (CPP) Package Modification Factor changes are:

<u>Type of Policy</u>	<u>Property</u>	<u>Liability</u>	<u>Prop. &amp; Liab. Total</u>
Motel/Hotel	0.0%	-7.0%	-3.9%
Apartment	0.0%	0.0%	0.0%
Office	-1.1%	-5.7%	-3.0%
Mercantile	0.0%	0.0%	0.0%
Institutional	0.0%	-9.1%	-1.8%
Services	0.0%	-6.4%	-2.7%
Indust./Proc.	-3.2%	-3.1%	-3.1%
Contractors	<u>0.0%</u>	<u>-1.1%</u>	<u>-1.0%</u>
Statewide	-0.4%	-3.1%	-1.6%

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#### INDICATED VS. CAPPED

Indicated PMF changes are based on standard ISO methodology. Differences between indicated and capped PMF changes are caused by rounding each indicated PMF to the nearest one percent and applying an upper cap of 1.00, where necessary.

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# ALABAMA

## ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

### COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

#### EXECUTIVE SUMMARY

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##### HISTORICAL SOURCE DATA

The data used in this review is from ISO reporting companies for:

- Basic Group I: five fiscal accident years ending 03/31/18.
  - Basic Group II: ten fiscal accident years ending 03/31/18.
  - Special Causes of Loss: five fiscal accident years ending 03/31/18.
  - Crime: calendar year ending 06/30/16.
  - Inland Marine: five calendar accident years ending 12/31/16.
  - Fidelity: policy year ending 12/31/15.
  - Owners, Landlords, and Tenants: five fiscal accident years ending 03/31/18.
  - Manufacturers and Contractors: five fiscal accident years ending 03/31/18.
  - Products: three calendar accident years ending 12/31/17.
  - Local Products and Completed Operations: three calendar accident years ending 12/31/17.
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##### PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-18-RLA1	ML-17-RLA1	ML-10-RLA1
<u>Dates</u>			
Implemented	12/01/18	12/01/17	11/01/10
<u>Changes</u>			
Indicated	-2.4%	-0.9%	+3.6%
Filed	-2.4%	-0.9%	+0.8%
Implemented	-2.4%	-0.9%	+0.8%

ALABAMA

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2019-RLA1

EXECUTIVE SUMMARY

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ADJUSTMENTS  
TO REPORTED  
EXPERIENCE

Standard actuarial procedures have been used in the reviews underlying the calculation of the PMFs, including adjusting the fire and liability losses to ultimate settlement level and, for all coverages, reflecting all loss adjustment expenses and trend. Specific procedures vary by subline.

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TEN LARGEST  
GROUPS IN  
ISO DATA BASE

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for the year ending 12/31/17 for the Annual Statement Line of Business (ASLOB) indicated.

COMMERCIAL MULTI PERIL (ASLOB 51 & 52)

1. Travelers Indemnity Company
  2. Cincinnati Insurance Company
  3. Nationwide Mutual Insurance Company
  4. Tokio Marine Companies
  5. Liberty Mutual Insurance Company
  6. Hartford Accident & Indemnity Company
  7. Continental Casualty Company
  8. American International Group
  9. Frankenmuth Mutual Insurance Company
  10. Great American Insurance Company
- 

SIZE OF ISO  
DATA BASE

The market share of ISO participating insurers as measured by Annual Statement Page 15 written premium for the year ending 12/31/17 is:

Commercial Multi Peril (ASLOB 51 & 52). 47.5%.

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ADDITIONAL  
SUPPORTING  
MATERIAL

Additional supporting material underlying the calculation of the experience review indications used in this PMF analysis may be found in the respective monoline experience review documents for each line.

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ALABAMA  
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW  
COMMERCIAL PACKAGE POLICY  
ML-2019-RLA1  
EXECUTIVE SUMMARY

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COMPANY DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the PMFs contained herein are appropriate for your use. We have included within this document the information upon which ISO relied in order to enable companies to make such independent judgments. The data underlying the enclosed material comes from companies reporting to Insurance Services Office, Inc. Therefore, the ISO experience permits the establishment of a much broader statistical ratemaking base than could be employed by using any individual company's data. A broader data base enhances the validity of ratemaking analysis derived therefrom.

At the same time, however, an individual company may benefit from a comparison of its own experience to the aggregate ISO experience, and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projection based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate whether the ISO selected PMFs are appropriate for its use.

The material has been developed exclusively by the staff of Insurance Services Office, Inc.

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COMMERCIAL PACKAGE POLICY

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## COMMERCIAL PACKAGE POLICY METHODOLOGY OVERVIEW

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### OBJECTIVE

A Commercial Package Policy (CPP) is essentially a combination of monoline coverages. CPP pricing employs monoline loss costs modified by Package Modification Factors (PMFs). These factors vary by the eight CPP types of policy and are reviewed annually. Monoline and multiline experience are combined and reviewed via a monoline/multiline relativity analysis. The resulting indicated PMFs represent the loss cost for a CPP relative to that for monoline policies providing the same coverages.

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### STEP 1: THE RELATIVITY ANALYSES

Each line of insurance develops indicated changes to monoline and multiline aggregate loss costs based on an experience ratio relativity analysis for that coverage. The monoline indication represents the needed change to monoline loss costs. The multiline indication represents the needed change to multiline aggregate loss costs, which is implemented through changes to the PMFs. For this PMF analysis, multiline indications are developed for each line of insurance and Type of Policy. Relativity analyses are explained in Section B.

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### STEP 2: CALCULATION OF THE PMFs

The procedure described above generates indicated Implicit PMFs (IPMFs) which vary by the various lines of insurance and by type of policy. IPMFs represent what the PMF would be for the CPP risk if only a single coverage were written. For each Type of Policy, IPMFs are weighted by CPP aggregate loss costs to determine the indicated property and liability PMFs. These PMFs may be capped, or rounded to the nearest one percent, and certain component IPMFs appropriately adjusted for this change. These calculations are explained in the remainder of Section A.

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ALABAMA

TABLE 1  
COMMERCIAL PACKAGE POLICY  
SUMMARY OF THIS REVIEW

The display below summarizes the review and shows the capped Package Modification Factors for Property and Liability. For each type of risk, the PMFs are determined to be those factors which when applied to the monoline loss costs produce the appropriate CPP aggregate loss cost level as determined by an analysis of the CPP experience.

TYPE OF POLICY	PROPERTY PMFS			LIABILITY PMFS			PROP. & LIAB. TOTAL
	CURRENT	CAPPED	% CHANGE	CURRENT	CAPPED	% CHANGE	% CHANGE
MOTEL/HOTEL (31)	1.00	1.00	0.0%	1.00	0.93	-7.0%	-3.9%
APARTMENT (32)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
OFFICE (33)	0.93	0.92	-1.1%	0.88	0.83	-5.7%	-3.0%
MERCANTILE (34)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
INSTITUTION (35)	1.00	1.00	0.0%	0.88	0.80	-9.1%	-1.8%
SERVICES (36)	1.00	1.00	0.0%	0.94	0.88	-6.4%	-2.7%
IND/PROC (37)	0.95	0.92	-3.2%	0.97	0.94	-3.1%	-3.1%
CONTRACTORS (38)	1.00	1.00	0.0%	0.89	0.88	-1.1%	-1.0%
STATEWIDE			-0.4%			-3.1%	-1.6%

ALABAMA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

MOTEL/HOTEL (31) *****	(1) AGGREG- ATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	341,041	0.701	-2.7%	0.682	0.675
BASIC GRP II	631,893	1.492	0.5	1.499	1.484
SP CAUSE/LOSS	164,082	0.736	9.1	0.803	0.795
*CRIME	3,245	0.910	0.0	0.910	0.910
*INL. MAR.	6,289	0.910	0.0	0.910	0.910
*FIDELITY	10,241	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>1,156,791</u>	<u>1.00</u>	<u>1.0%</u>	<u>1.010</u>	<u>1.00</u>
LIABILITY-					
OL&T	1,423,894	1.000	-8.3%	0.917	0.925
<u>TOTAL</u>	<u>1,423,894</u>	<u>1.00</u>	<u>-8.3%</u>	<u>0.917</u>	<u>0.93</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,580,685		-4.1%		

  

APARTMENT (32) *****	(1) AGGREG- ATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	2,244,089	0.808	-1.1%	0.799	0.758
BASIC GRP II	2,075,212	1.316	9.3	1.438	1.364
SP CAUSE/LOSS	806,358	1.046	13.7	1.189	1.128
*CRIME	607	0.910	0.0	0.910	0.910
*INL. MAR.	620	0.910	0.0	0.910	0.910
*FIDELITY	4,178	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>5,131,064</u>	<u>1.00</u>	<u>5.4%</u>	<u>1.054</u>	<u>1.00</u>
LIABILITY-					
OL&T	961,423	1.000	-7.1%	0.929	1.000
<u>TOTAL</u>	<u>961,423</u>	<u>1.00</u>	<u>-7.1%</u>	<u>0.929</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	6,092,487		3.5%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

ALABAMA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

OFFICE (33) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	1,064,812	0.739	-2.5%	0.721	0.751
BASIC GRP II	1,972,762	1.205	-12.2	1.058	1.102
SP CAUSE/LOSS	557,707	0.750	8.7	0.815	0.849
*CRIME	6,128	0.910	0.0	0.910	0.910
*INL. MAR.	33,172	0.910	0.0	0.910	0.910
*FIDELITY	8,345	1.000	0.0	1.000	1.000
TOTAL	3,642,926	0.93	-4.9%	0.884	0.92
LIABILITY-					
OL&T	2,320,475	0.884	-5.7%	0.834	0.834
M&C	360,701	0.858	-3.1	0.831	0.831
TOTAL	2,681,176	0.88	-5.3%	0.833	0.83
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	6,324,102		-5.1%		
MERCANTILE (34) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	3,124,621	0.693	-4.3%	0.663	0.624
BASIC GRP II	6,005,144	1.376	9.1	1.501	1.409
SP CAUSE/LOSS	1,944,780	0.956	8.0	1.032	0.971
*CRIME	32,408	0.910	0.0	0.910	0.910
*INL. MAR.	252,260	0.910	0.0	0.910	0.910
*FIDELITY	212,944	1.000	0.0	1.000	1.000
TOTAL	11,572,157	1.00	6.2%	1.062	1.00
LIABILITY-					
OL&T	6,803,446	0.992	-8.3%	0.910	0.976
M&C	1,598,064	1.005	3.4	1.039	1.115
LOCAL PRODUCT	454,893	1.500	0.1	1.501	1.500
*MULTI PRODUCT	978,750	0.862	-1.1	0.853	0.853
TOTAL	9,835,153	1.00	-5.8%	0.942	1.00
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PROP. & LIAB. TOTAL	21,407,310		0.7%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

ALABAMA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

INSTITUTION (35) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-					
BASIC GRP I	4,041,722	0.799	-4.2%	0.765	0.760
BASIC GRP II	7,257,759	1.281	1.0	1.294	1.285
SP CAUSE/LOSS	1,793,726	0.760	10.2	0.838	0.832
*CRIME	22,085	0.910	0.0	0.910	0.910
*INL. MAR.	50,247	0.910	0.0	0.910	0.910
*FIDELITY	139,054	1.000	0.0	1.000	1.000
TOTAL	13,304,593	1.00	0.7%	1.007	1.00
LIABILITY-					
OL&T	2,745,098	0.890	-13.9%	0.766	0.790
M&C	529,601	0.843	-1.2	0.833	0.858
TOTAL	3,274,699	0.88	-11.6%	0.778	0.80
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	16,579,292		-1.8%		

  

SERVICES (36) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-					
BASIC GRP I	2,280,965	0.896	-4.1%	0.859	0.863
BASIC GRP II	2,907,087	1.350	-0.1	1.349	1.354
SP CAUSE/LOSS	687,796	0.598	7.2	0.641	0.644
*CRIME	12,586	0.910	0.0	0.910	0.910
*INL. MAR.	29,216	0.910	0.0	0.910	0.910
*FIDELITY	71,167	1.000	0.0	1.000	1.000
TOTAL	5,988,817	1.00	-0.4%	0.996	1.00
LIABILITY-					
OL&T	1,667,267	0.881	-10.1%	0.792	0.794
M&C	2,191,916	0.911	-5.5	0.861	0.863
LOCAL PRODUCT	520,040	1.500	1.6	1.524	1.500
*MULTI PRODUCT	50,899	0.914	0.2	0.916	0.916
TOTAL	4,430,122	0.94	-6.1%	0.883	0.88
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	10,418,939		-2.8%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

ALABAMA  
TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

IND/PROC (37) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	1,940,125	0.926	-8.0%	0.852	0.887
BASIC GRP II	1,601,789	0.986	-8.1	0.906	0.944
SP CAUSE/LOSS	835,033	0.928	-2.0	0.909	0.947
*CRIME	2,034	0.910	0.0	0.910	0.910
*INL. MAR.	2,219	0.910	0.0	0.910	0.910
*FIDELITY	48,367	1.000	0.0	1.000	1.000
TOTAL	4,429,567	0.95	-7.0%	0.883	0.92
LIABILITY-					
M&C	3,653,380	1.037	-5.5	0.980	0.980
LOCAL PRODUCT	67,450	1.250	2.1	1.276	1.276
*MULTI PRODUCT	1,802,158	0.860	0.4	0.863	0.863
TOTAL	5,522,988	0.97	-3.1%	0.940	0.94
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	9,952,555		-4.8%		
CONTRACTORS (38) *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE <u>LOSS COSTS</u>	CURRENT IMPLICIT <u>PMF</u>	NET <u>INDICATION</u>	INDIC. <u>PMF</u>	CAPPED <u>PMF</u>
COVERAGE					
PROPERTY-					
BASIC GRP I	416,778	0.664	-3.8%	0.639	0.645
BASIC GRP II	605,264	1.229	-4.1	1.179	1.190
SP CAUSE/LOSS	470,758	1.279	4.8	1.340	1.353
*CRIME	1,330	0.910	0.0	0.910	0.910
*INL. MAR.	1,173	0.910	0.0	0.910	0.910
*FIDELITY	23,668	1.000	0.0	1.000	1.000
TOTAL	1,518,971	1.00	-0.9%	0.991	1.00
LIABILITY-					
M&C	7,297,245	0.787	-1.6	0.774	0.774
LOCAL PRODUCT	4,318,806	1.075	4.8	1.127	1.127
TOTAL	11,616,051	0.89	-1.0%	0.881	0.88
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	13,135,022		-1.0%		

\* indicates coverage for which reviews are on a MULTISTATE basis.



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TABLE 2  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS (PMF)

STATEWIDE *****	(1)	(2)	(3)	(4)	(5)
	AGGREGATE	CURRENT	NET	INDIC.	CAPPED
COVERAGE	<u>LOSS COSTS</u>	<u>IMPLICIT</u>	<u>INDICATION</u>	<u>PMF</u>	<u>PMF</u>
PROPERTY-		PMF			
BASIC GRP I	15,454,153	0.791	-4.1%	0.759	0.749
BASIC GRP II	23,056,910	1.285	1.8	1.309	1.285
SP CAUSE/LOSS	7,260,240	0.849	7.8	0.916	0.901
*CRIME	80,423	0.910	0.0	0.910	0.910
*INL. MAR.	375,196	0.910	0.0	0.910	0.910
*FIDELITY	517,964	1.000	0.0	1.000	1.000
TOTAL	46,744,886	0.989	1.2%	1.001	0.985
LIABILITY-					
OL&T	15,921,603	0.945	-9.0%	0.860	0.896
M&C	15,630,907	0.876	-2.6	0.854	0.862
LOCAL PRODUCT	5,361,189	1.136	4.1	1.182	1.180
*MULTI PRODUCT	2,831,807	0.862	-0.1	0.861	0.861
TOTAL	39,745,506	0.939	-4.9%	0.893	0.910
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	86,490,392		-1.6%		

\* indicates coverage for which reviews are on a MULTISTATE basis.

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TABLE 2

COMMERCIAL PACKAGE POLICY

COMBINED PMFs

<u>TYPE OF POLICY</u>	<u>CURRENT COMBINED</u>	<u>INDICATED COMBINED</u>	<u>CAPPED COMBINED</u>
MOTEL/HOTEL (31)	1.00	0.959	0.96
APARTMENT (32)	1.00	1.035	1.00
OFFICE (33)	0.91	0.862	0.88
MERCANTILE (34)	1.00	1.006	1.00
INSTITUTION (35)	0.97	0.957	0.96
SERVICES (36)	0.98	0.946	0.95
IND/PROC (37)	0.96	0.914	0.93
CONTRACTORS (38)	0.90	0.892	0.89

NOTE: Combined PMFs are provided for informational purposes only.

## EXPLANATORY NOTES TO TABLE 2

### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS

OBJECTIVE	<p>Commercial package policies were introduced in the 1960's as a convenient tool for both insurer and insured to have the many types of insurance needed by commercial risks packaged under one cover. Thus fire, extended coverage, crime, liability insurance, etc. could be written using a single policy instead of several. Today, virtually any type of monoline coverage can also be purchased as part of a package policy such as the CPP.</p> <p>The types of insured which can be written under a CPP are generally categorized into the following Types of Policy:</p> <ul style="list-style-type: none"><li>. Motels and Hotels (TOP 31)</li><li>. Apartments (TOP 32)</li><li>. Offices (TOP 33)</li><li>. Mercantile Operations (TOP 34)</li><li>. Institutions (TOP 35)</li><li>. Service Operations (TOP 36)</li><li>. Industrial and Processing Operations (TOP 37)</li><li>. Contractors (TOP 38)</li></ul>
PRICING OF POLICIES	<p>Since a CPP is essentially a combination of monoline coverages, CPP pricing employs monoline loss costs modified by PMFs (Package Modification Factors). These factors vary by the categories shown above and are reviewed annually.</p>
CPP PMF REVIEW PROCEDURE	<p>The CPP review of Package Modification Factors, which appears in Table 2 of this document, determines the appropriate PMF loss cost level for each of the eight CPP categories. This is done by combining the indications of the simultaneous reviews of monoline and multiline experience for the various lines (or coverages).</p> <p>A detailed explanation of the calculation of the revised PMFs follows.</p>

## EXPLANATORY NOTES TO TABLE 2 (Cont'd)

### LINES OF INSURANCE (COVERAGES) INCLUDED

The CPP review reflects the contribution from each significant coverage which can be written on a CPP. Included are:

#### Property Coverages

- . Basic Group I (BGI) - the predominant property coverage included.
- . Basic Group II (BGII) - both Basic Group I and Basic Group II must be purchased under a CPP contract.
- . Special Causes of Loss (SCL) - typically a type of insurance which is purchased in addition to Basic Group I and Basic Group II in order to provide "all risk" property coverage for the insured.
- . Crime (CRIME) - Crime insurance is a commonly purchased CPP coverage.
- . Inland Marine (INL. MAR.) - A highly specialized line of property insurance, Inland Marine coverages can be purchased as part of a package policy.
- . Fidelity (FIDELITY) - Certain forms of fidelity insurance can be part of the CPP package. Various forms of employee dishonesty coverage are available.

#### Liability Coverages

- . Owners, Landlords and Tenants (OL&T) Liability - this is the prevalent type of Premises/Operations liability for CPP insureds.
- . Manufacturers and Contractors Liability (M&C) - this is the type of Premises/Operations liability insurance for risks whose liability exposure is more heavily off-premises than on.
- . Products/Completed Operations Liability (PROD) - this type of insurance protects against claims for damages arising from products/completed operations in conjunction with an insured's business. For review purposes, this line of insurance is split into the following two categories:
  - Products: experience for this category is reviewed on a multistate basis.
  - Local Products/ Completed Operations: experience for this category reflects an exposure to loss which is local in nature; therefore, individual state experience is used.

## EXPLANATORY NOTES TO TABLE 2 (Cont'd)

### THE IMPLICIT PACKAGE MODIFICATION FACTOR

For each applicable coverage listed under each of the eight (8) CPP categories, a "current implicit PMF" is shown in column (2). The definition of this factor follows:

For a given CPP category (e.g., apartments) the published Package Modification Factor (PMF) represents the loss cost for a CPP relative to that for monoline policies providing the same coverages. Thus a property (liability) PMF of .80 represents a 20% lower aggregate loss cost for a CPP than for the comparable monoline policies. This PMF, however, represents the CPP "loss cost" for all property (liability) coverages combined. Based on CPP experience, it has been determined that this CPP "loss cost" can differ significantly if it is determined for each property (liability) coverage individually. The IPMF represents what the PMF would be for that CPP risk if only a single coverage were written. The use of the IPMF in monoline/multiline ratemaking and in the determination of revised CPP Package Modification Factors is significant in that it appropriately identifies how different the component parts of the multiline "loss cost" are.

### THE MULTILINE INDICATION

Under the CPP ratemaking procedures, monoline and multiline experience are combined for each coverage. The results of these coverage analyses are indicated changes to monoline loss costs and also indicated CPP aggregate loss cost level changes. The CPP indications by coverage are then incorporated in the CPP PMF review. These indications (shown in column (3)) represent the needed adjustments to the IPMFs (shown in column (2)) described above.

The development of these indications is detailed in Section B.

### THE INDICATED PMF

For each CPP category (and for property vs. liability), the indicated PMF is calculated as follows:

Each of the current IPMFs in column (2) is multiplied by the indicated percent change shown in column (3). A weighted average of the indicated IPMFs, using weights based on latest year aggregate loss costs at current ISO loss cost level (column (1) divided by column (2)), yields the indicated PMF at the bottom of column (4).

### THE CAPPED PMF

The indicated PMF for each category (and for property vs. liability) shown at the bottom of column (4) is limited to a maximum of 1.00 in arriving at the proposed PMF (bottom of column (5)). All indicated PMFs which are below 1.00 are rounded to the nearest .01 in determining the proposed PMF. To the extent that any indicated PMFs are capped at 1.00, indicated PMFs below this value are adjusted in order to minimize any revenue changes which would result from capping.

In addition to the adjustments just described, the IPMFs (for property and liability) shown in column (4) are subject to minimum and maximum values and adjusted in column (5) so that they average to the proposed PMF shown at the bottom of column (5).

## COMMERCIAL PACKAGE POLICY

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TABLE 3 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE *
TOP					
10	1.294	0.121	1.032	1.035	
31	1.277	0.015	1.004	1.007	-2.7%
32	1.285	0.080	1.020	1.024	-1.1%
33	1.148	0.042	1.006	1.009	-2.5%
34	0.901	0.124	0.987	0.990	-4.3%
35	0.936	0.165	0.989	0.992	-4.2%
36	0.897	0.099	0.989	0.993	-4.1%
37	0.549	0.087	0.949	0.952	-8.0%
38	0.709	0.020	0.993	0.996	-3.8%
RATING GROUP					
01	0.754	0.134	0.963	0.965	
02	0.988	0.098	0.999	1.001	
03	1.135	0.072	1.009	1.012	
04	1.052	0.259	1.013	1.016	
05	1.039	0.042	1.002	1.004	
06	1.070	0.250	1.017	1.020	
07	0.898	0.087	0.991	0.993	
08	0.792	0.211	0.952	0.954	
09	1.277	0.104	1.026	1.028	
10	0.866	0.045	0.994	0.996	
11	1.073	0.039	1.003	1.005	
13	1.006	0.067	1.000	1.003	
14	1.176	0.087	1.014	1.017	
15	0.885	0.065	0.992	0.995	
17	1.040	0.014	1.001	1.003	
18	1.029	0.031	1.001	1.003	
19	1.189	0.015	1.003	1.005	
20	1.101	0.007	1.001	1.003	
21	1.005	0.085	1.000	1.003	
22	1.229	0.085	1.018	1.020	
TERRITORY					
Birmingham	1.111	0.154	1.016	1.011	
City of Mobile	0.337	0.054	0.943	0.938	
Balance of State	1.011	0.567	1.006	1.001	

\* INDICATED CHANGE = (BALANCED RELATIVITY FOR TOP) / (MONOLINE RELATIVITY (TOP 10)) - 1

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TABLE 4 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE *
TOP					
10	0.573	0.136	0.927	0.939	
31	1.927	0.017	1.011	1.024	+9.1%
32	2.194	0.067	1.054	1.068	+13.7%
33	1.159	0.052	1.008	1.021	+8.7%
34	1.007	0.170	1.001	1.014	+8.0%
35	1.121	0.189	1.022	1.035	+10.2%
36	0.922	0.071	0.994	1.007	+7.2%
37	0.332	0.087	0.909	0.920	-2.0%
38	0.587	0.055	0.971	0.984	+4.8%
CATEGORY					
01	1.051	0.645	1.033	1.015	
02	0.119	0.050	0.899	0.883	
03	0.931	0.072	0.995	0.978	
04	0.452	0.080	0.938	0.922	
05	0.534	0.061	0.962	0.946	
06	0.896	0.039	0.996	0.978	
07	0.918	0.012	0.999	0.982	
08	0.359	0.041	0.959	0.942	
09	0.578	0.092	0.951	0.934	
10	2.272	0.015	1.012	0.995	
11	1.677	0.089	1.047	1.029	
12	0.887	0.058	0.993	0.976	
13	1.599	0.029	1.014	0.996	
14	1.229	0.078	1.016	0.999	

\* INDICATED CHANGE = (BALANCED RELATIVITY FOR TOP) / (MONOLINE RELATIVITY (TOP 10)) - 1



## EXPLANATORY NOTES TO TABLES 3 AND 4

### BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

#### OBJECTIVE

The explanations which follow clarify Tables 3 and 4, the Basic Group I Relativity Analysis and the Special Causes of Loss Relativity Analysis, respectively. The purpose of these analyses is to:

- (1) determine monoline classification and territorial loss cost level needs for Basic Group I;
- (2) determine monoline category loss cost level need for Special Causes of Loss;
- (3) determine indicated changes to the eight property CPP Package Modification Factors based on Basic Group I/Special Causes of Loss experience.

#### COLUMN (1)

#### LEAST SQUARES FORMULA RELATIVITIES

The Least Squares Formula Relativities are the marginal relativities which result from the application of the simultaneous review procedure to the raw experience (where marginal refers to the relativities for a given rating variable, e.g. type of policy, across all subsets of any other rating variables, i.e. rating group and territory for Basic Group I, and category for Special Causes of Loss).

The purpose of such a simultaneous review procedure is to arrive at a set of type of policy relativities (which will serve to price CPP policies relative to monoline policies via the PMF); a set of rating group/territory relativities for Basic Group I; and a set of category relativities for Special Causes of Loss that best represent the experience. This procedure is in contrast to a review of each rating variable's experience separately. Such one-way types of review do not take into account differing percentages of monoline and multiline experience in each rating variable, or differing percentages of a particular rating variable's experience in the monoline and multiline types of policy. The simultaneous relativity procedure accounts for these different distributions in generating relativities for the various rating variables.

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (1)  
(Cont'd)

The procedure uses an iterative technique to determine a set of marginal relativities by rating variable that is a best fit to the individual cell relativities, with each cell being defined as the cross-section of specific values of each rating variable. The process uses the relativity of the five year experience ratios by rating cell to the overall statewide experience ratio and the latest year aggregate loss costs for each rating cell. (This experience is shown in Table 5 for Basic Group I and Table 6 for Special Causes of Loss). Specifically, the iteration procedure uses the following formulas:

BASIC GROUP I:

$$TOP_i = \frac{\sum_{j=1}^n \sum_{k=1}^t W_{ijk}^2 R_{ijk} RG_j TER_k}{\sum_{j=1}^n \sum_{k=1}^t W_{ijk}^2 RG_j^2 TER_k^2}, \text{ where } 1 \leq i \leq m;$$

$$RG_j = \frac{\sum_{k=1}^t \sum_{i=1}^m W_{ijk}^2 R_{ijk} TOP_i TER_k}{\sum_{k=1}^t \sum_{i=1}^m W_{ijk}^2 TOP_i^2 TER_k^2}, \text{ where } 1 \leq j \leq n$$

$$TER_k = \frac{\sum_{j=1}^n \sum_{i=1}^m W_{ijk}^2 R_{ijk} TOP_i RG_j}{\sum_{j=1}^n \sum_{i=1}^m W_{ijk}^2 TOP_i^2 RG_j^2}, \text{ where } 1 \leq k \leq t$$

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (1)  
(Cont'd)

SPECIAL CAUSES OF LOSS:

$$TOP_i = \frac{\sum_{j=1}^n W_{ij}^2 R_{ij} CAT_j}{\sum_{j=1}^n W_{ij}^2 CAT_j^2}, \text{ where } 1 \leq i \leq m;$$

$$CAT_j = \frac{\sum_{i=1}^m W_{ij}^2 R_{ij} TOP_i}{\sum_{i=1}^m W_{ij}^2 TOP_i^2}, \text{ where } 1 \leq j \leq n$$

- $TOP_i$  is the relativity for the  $i$ th Type of Policy;
- $RG_j$  is the relativity for the  $j$ th Rating Group;
- $CAT_j$  is the relativity for the  $j$ th Category;
- $TER_k$  is the relativity for the  $k$ th Territory;
- $W_{ijk}$  is the loss cost volume at current level for the  $i$ th Type of Policy,  $j$ th Rating Group or Category and  $k$ th Territory;
- $R_{ijk}$  is the experience ratio relativity for the  $i$ th Type of Policy,  $j$ th Rating Group or Category and  $k$ th Territory;
- $R_{ij}$  is the experience ratio relativity for the  $i$ th Type of Policy,  $j$ th Rating Group or Category;

## EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

### COLUMN (1) (Cont'd)

- m is the number of Types of Policy in the analysis;
- n is the number of Rating Groups or Categories in the analysis;
- t is the number of Territories in the analysis.

The procedure determines m Type of Policy relativities using the above formulas. Then, using those results, a set of n Rating Group and t Territory relativities are determined. These steps form an iterative process which continues until there is no appreciable difference in results from one iteration to the next.

### COLUMN (2)

#### CREDIBILITY

The credibility of the experience for each rating variable is determined from the formula:

$$Z = \frac{P}{P + K}$$

where P is the 5-year adjusted aggregate loss costs for a given rating variable, and K is a constant value. For Basic Group I, K equals an aggregate loss cost volume of \$55,000,000 for territory, \$40,000,000 for rating group, and \$100,000,000 for type of policy. For Special Causes of Loss, K equals an aggregate loss cost volume of \$15,000,000.

### COLUMN (3)

#### CREDIBILITY-WEIGHTED RELATIVITIES

Credibility-weighted relativities are calculated based on the formula

$$W = R^Z$$

where Z is the credibility, R is the least squares formula relativity and W is the credibility-weighted relativity for a given rating variable.

This formula implicitly assigns the complement of credibility to a relativity of unity.

EXPLANATORY NOTES TO TABLES 3 AND 4 (Cont'd)

COLUMN (4)

BALANCED RELATIVITIES

The credibility-weighted relativities are balanced to assure that the average relativity across all rating variables remains at unity.

MULTILINE  
CONSIDERATIONS

The type of policy (TOP) relativities are used to generate multiline indications which apply to the current Implicit Package Modification Factors (IPMFs). The indicated IPMFs are calculated as follows:

$$\text{TOP y indicated IPMF} = \frac{(\text{TOP y current IPMF}) \times (\text{TOP y relativity})}{\text{monoline relativity}}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account. If an IPMF has been capped it is so noted at the bottom of Table 3 and Table 4.

Loss cost changes for each TOP are calculated as described on Tables 3 and 4.

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BASIC GROUP I RELATIVITY ANALYSIS

TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 APARTMENTS	172,473	743,404	0.380	0.638	0.673
	02 OTHER HABITATIONAL	195,798	1,038,445	0.988	1.123	1.185
	03 RESTAURANTS & BARS	65,172	200,530	0.226	0.825	0.870
	04 OTHER MERCANTILE RS	557,286	2,395,048	2.000	1.211	1.278
	05 PUBLIC BUILDINGS	88,468	411,366	2.780	1.496	1.578
	06 CHURCHES	342,137	1,381,270	1.207	1.174	1.239
	07 SCHOOLS	196,620	865,774	0.362	1.057	1.116
	08 OFFICES AND BANKS	406,960	1,862,882	0.319	0.860	0.907
	09 REC. FACILITIES	164,065	784,500	0.804	1.096	1.156
	10 HOTELS AND MOTELS	81,575	352,172	0.122	1.103	1.164
	11 HOSPITALS/NURS HOME	113,589	476,040	0.364	0.720	0.759
	13 MOTOR VEHICLE RISKS	166,487	669,698	0.777	1.123	1.185
	14 OTHER NON-MANUF.	142,017	749,454	0.198	0.901	0.950
	15 STORAGE	149,264	740,077	0.027	0.913	0.963
	17 FOOD MANUFACTURING	33,211	102,855	0.398	0.988	1.042
	18 WOOD MANUFACTURING	32,908	149,074	4.296	1.698	1.791
	19 WEARING APPAREL	14,984	94,108	0.044	1.095	1.155
	20 CHEM. MANUFACTURING	3,593	37,262	0.000	1.089	1.149
	21 METAL MANUFACTURING	99,292	442,309	6.816	2.090	2.205
	22 OTHER MANUFACTURING	63,326	278,473	0.000	0.961	1.014
	TOTAL*	3,089,225	13,774,741	1.109	1.078	1.137
31 MULTILINE	10 HOTELS AND MOTELS	341,041	1,553,644	1.640	1.102	1.162
MOTEL/HOTEL	TOTAL*	341,041	1,553,644	1.640	1.102	1.162
32 MULTILINE	01 APARTMENTS	1,463,744	5,454,079	1.064	1.095	1.155
APARTMENT	02 OTHER HABITATIONAL	780,345	3,257,697	2.282	1.264	1.333
	TOTAL*	2,244,089	8,711,776	1.488	1.153	1.217
33 MULTILINE	08 OFFICES AND BANKS	1,064,812	4,397,503	0.617	0.844	0.891
OFFICE	TOTAL*	1,064,812	4,397,503	0.617	0.844	0.891
34 MULTILINE	03 RESTAURANTS & BARS	492,195	2,566,872	1.067	0.968	1.021
MERCANTILE	04 OTHER MERCANTILE RS	1,915,013	8,869,028	0.804	0.923	0.973
	08 OFFICES AND BANKS	123,030	474,177	0.411	0.874	0.922
	13 MOTOR VEHICLE RISKS	195,851	564,515	3.013	1.309	1.381
	14 OTHER NON-MANUF.	86,748	348,793	0.637	0.918	0.969
	15 STORAGE	311,784	1,336,163	0.163	0.819	0.864
	TOTAL*	3,124,621	14,159,548	0.900	0.942	0.993

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BASIC GROUP I RELATIVITY ANALYSIS

TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	10,311	41,567	0.000	0.839	0.885
	05 PUBLIC BUILDINGS	197,914	1,362,318	0.559	0.897	0.946
	06 CHURCHES	2,453,906	11,931,759	1.005	0.973	1.027
	07 SCHOOLS	575,009	2,941,197	0.289	0.797	0.841
	08 OFFICES AND BANKS	216,216	1,065,323	1.265	1.234	1.302
	09 REC. FACILITIES	197,828	907,167	0.183	0.828	0.873
	11 HOSPITALS/NURS HOME	311,876	1,147,559	1.065	0.981	1.035
	13 MOTOR VEHICLE RISKS	1,739	12,643	0.143	0.898	0.947
	14 OTHER NON-MANUF.	76,923	372,528	0.665	0.948	1.000
	TOTAL*	4,041,722	19,782,061	0.850	0.951	1.003
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	59,211	331,842	0.000	0.602	0.635
	04 OTHER MERCANTILE RS	181,973	801,105	0.201	0.584	0.616
	08 OFFICES AND BANKS	360,124	1,915,567	0.384	0.564	0.595
	09 REC. FACILITIES	641,742	2,975,058	2.167	1.462	1.543
	13 MOTOR VEHICLE RISKS	348,672	1,637,575	0.844	0.740	0.780
	14 OTHER NON-MANUF.	385,773	1,878,410	1.864	1.045	1.102
	15 STORAGE	146,475	704,072	0.599	0.697	0.735
	21 METAL MANUFACTURING	9,191	52,960	0.000	0.635	0.670
	22 OTHER MANUFACTURING	147,804	734,731	0.231	0.599	0.632
	TOTAL*	2,280,965	11,031,320	1.184	0.939	0.990
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	172,618	717,114	0.482	0.660	0.696
	08 OFFICES AND BANKS	50,233	252,069	0.121	0.641	0.676
	13 MOTOR VEHICLE RISKS	89	10,106	1.392	0.799	0.843
	14 OTHER NON-MANUF.	62,600	328,632	0.079	0.613	0.647
	15 STORAGE	6,526	20,227	0.000	0.660	0.696
	17 FOOD MANUFACTURING	117,307	457,944	0.064	0.602	0.635
	18 WOOD MANUFACTURING	249,212	1,128,884	0.039	0.546	0.576
	19 WEARING APPAREL	131,521	506,985	0.417	0.662	0.698
	20 CHEM. MANUFACTURING	48,035	236,739	0.000	0.599	0.632
	21 METAL MANUFACTURING	600,937	3,215,706	0.174	0.504	0.532
	22 OTHER MANUFACTURING	501,047	2,711,765	0.712	0.715	0.754
	TOTAL*	1,940,125	9,586,171	0.323	0.604	0.637

ENTIRE STATE

\*\*\*\*\*

ALABAMA

BASIC GROUP I RELATIVITY ANALYSIS

TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
38 MULTILINE	04 OTHER MERCANTILE RS	243,562	1,226,105	0.681	0.674	0.711
CONTRACTORS	08 OFFICES AND BANKS	148,770	714,043	0.388	0.736	0.776
	14 OTHER NON-MANUF.	24,446	117,724	0.165	0.656	0.692
	TOTAL*	416,778	2,057,872	0.546	0.695	0.733
TOTAL ALL TOPS*	01 APARTMENTS	1,636,217	6,197,483	0.992	1.047	1.104
	02 OTHER HABITATIONAL	986,454	4,337,709	2.001	1.231	1.299
	03 RESTAURANTS & BARS	616,578	3,099,244	0.876	0.918	0.968
	04 OTHER MERCANTILE RS	3,070,452	14,008,400	0.957	0.920	0.971
	05 PUBLIC BUILDINGS	286,382	1,773,684	1.245	1.082	1.141
	06 CHURCHES	2,796,043	13,313,029	1.030	0.997	1.053
	07 SCHOOLS	771,629	3,806,971	0.308	0.863	0.911
	08 OFFICES AND BANKS	2,370,145	10,681,564	0.554	0.830	0.876
	09 REC. FACILITIES	1,003,635	4,666,725	1.553	1.277	1.348
	10 HOTELS AND MOTELS	422,616	1,905,816	1.347	1.102	1.162
	11 HOSPITALS/NURS HOME	425,465	1,623,599	0.878	0.912	0.961
	13 MOTOR VEHICLE RISKS	712,838	2,894,537	1.423	0.986	1.040
	14 OTHER NON-MANUF.	778,507	3,795,541	1.108	0.948	1.000
	15 STORAGE	614,049	2,800,539	0.232	0.811	0.855
	17 FOOD MANUFACTURING	150,518	560,799	0.138	0.687	0.725
	18 WOOD MANUFACTURING	282,120	1,277,958	0.536	0.680	0.717
	19 WEARING APPAREL	146,505	601,093	0.379	0.707	0.745
	20 CHEM. MANUFACTURING	51,628	274,001	0.000	0.633	0.668
	21 METAL MANUFACTURING	709,420	3,710,975	1.101	0.728	0.768
	22 OTHER MANUFACTURING	712,177	3,724,969	0.549	0.713	0.751
	TOTAL*	18,543,378	85,054,636	0.959	0.948	1.000

\* TOTALS IN COLUMNS (3), (4) & (5) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.



## ALABAMA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
10 MONOLINE	01 BUILDINGS	1,081,209	4,485,704	0.796	0.626
	02 RES. APTS. AND COND	14,029	68,713	0.112	0.088
	03 OFFICES	74,827	374,373	1.150	0.905
	04 MERCANTILE - HIGH	68,452	344,676	0.745	0.586
	05 MERCANTILE - MEDIUM	18,442	93,666	1.679	1.321
	06 MERCANTILE - LOW	19,860	85,663	0.318	0.250
	07 MOTELS AND HOTELS	11,949	49,752	0.134	0.105
	08 INSTITUTIONAL - HIG	20,174	81,574	0.072	0.057
	09 INSTITUTIONAL - LOW	47,811	190,467	0.495	0.389
	10 INDUST-PROC - HIGH	8,843	31,860	0.185	0.146
	11 INDUST-PROC - LOW	39,036	181,174	0.272	0.214
	12 SERVICE - HIGH	20,755	95,014	1.191	0.937
	13 SERVICE - LOW	37,450	180,492	0.476	0.375
	14 CONTRACTORS	8,419	50,022	0.406	0.319
	TOTAL*	1,471,256	6,313,150	0.762	0.600
31 MULTILINE	01 BUILDINGS	137,186	561,305	2.674	2.104
MOTEL/HOTEL	07 MOTELS AND HOTELS	26,896	129,511	2.369	1.864
	TOTAL*	164,082	690,816	2.624	2.065
32 MULTILINE	01 BUILDINGS	637,311	2,161,732	3.046	2.397
APARTMENT	02 RES. APTS. AND COND	169,047	718,088	0.345	0.271
	TOTAL*	806,358	2,879,820	2.480	1.951
33 MULTILINE	01 BUILDINGS	376,558	1,508,103	1.620	1.275
OFFICE	03 OFFICES	180,712	665,064	1.375	1.082
	04 MERCANTILE - HIGH	69	391	0.000	0.000
	08 INSTITUTIONAL - HIG	280	1,814	0.000	0.000
	11 INDUST-PROC - LOW	0	10	0.000	0.000
	12 SERVICE - HIGH	88	1,619	0.000	0.000
	14 CONTRACTORS	0	46	0.000	0.000
	TOTAL*	557,707	2,177,047	1.539	1.211

## ALABAMA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	1,385,649	5,787,957	1.399	1.101
	03 OFFICES	7,218	18,424	3.470	2.730
	04 MERCANTILE - HIGH	222,940	931,962	0.580	0.456
	05 MERCANTILE - MEDIUM	192,825	871,509	0.704	0.554
	06 MERCANTILE - LOW	125,662	502,045	1.197	0.942
	08 INSTITUTIONAL - HIG	87	1,148	0.000	0.000
	11 INDUST-PROC - LOW	439	1,616	0.000	0.000
	12 SERVICE - HIGH	4,384	35,685	0.073	0.057
	13 SERVICE - LOW	1,025	14,689	0.721	0.567
	14 CONTRACTORS	4,551	21,932	0.000	0.000
	TOTAL*	1,944,780	8,186,967	1.224	0.963
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	1,430,624	7,493,941	1.556	1.224
	03 OFFICES	99	2,327	0.000	0.000
	04 MERCANTILE - HIGH	13	63	0.000	0.000
	08 INSTITUTIONAL - HIG	93,276	533,417	0.537	0.423
	09 INSTITUTIONAL - LOW	265,510	1,298,248	0.855	0.673
	12 SERVICE - HIGH	950	5,773	0.000	0.000
	13 SERVICE - LOW	3,020	13,756	0.090	0.071
	14 CONTRACTORS	234	1,584	0.000	0.000
	TOTAL*	1,793,726	9,349,109	1.396	1.098
36 MULTILINE SERVICES	01 BUILDINGS	466,667	1,924,596	1.277	1.005
	03 OFFICES	3,046	14,390	1.260	0.991
	04 MERCANTILE - HIGH	2,711	12,432	0.000	0.000
	05 MERCANTILE - MEDIUM	2,322	9,363	1.209	0.951
	06 MERCANTILE - LOW	1,776	6,137	0.000	0.000
	08 INSTITUTIONAL - HIG	3,491	21,372	0.084	0.066
	09 INSTITUTIONAL - LOW	6,934	35,583	0.000	0.000
	10 INDUST-PROC - HIGH	0	207	0.000	0.000
	11 INDUST-PROC - LOW	198	2,581	0.000	0.000
	12 SERVICE - HIGH	143,367	778,402	1.075	0.846
	13 SERVICE - LOW	52,503	236,402	2.190	1.723
	14 CONTRACTORS	4,781	25,014	0.144	0.113
	TOTAL*	687,796	3,066,479	1.269	0.998

## ALABAMA

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
TABLE 6 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	545,598	2,298,718	0.446	0.351
	03 OFFICES	1,817	8,706	0.891	0.701
	04 MERCANTILE - HIGH	1,785	9,251	0.000	0.000
	05 MERCANTILE - MEDIUM	310	1,427	0.000	0.000
	10 INDUST-PROC - HIGH	46,503	192,331	1.093	0.860
	11 INDUST-PROC - LOW	236,445	1,279,882	0.783	0.616
	12 SERVICE - HIGH	0	372	0.000	0.000
	13 SERVICE - LOW	46	1,733	30.040	23.635
	14 CONTRACTORS	2,529	9,945	0.778	0.612
	TOTAL*	835,033	3,802,365	0.580	0.456
38 MULTILINE CONTRACTORS	01 BUILDINGS	226,210	1,055,370	0.802	0.631
	03 OFFICES	18,335	86,333	2.431	1.913
	04 MERCANTILE - HIGH	2,322	10,373	0.462	0.363
	05 MERCANTILE - MEDIUM	257	1,101	0.000	0.000
	06 MERCANTILE - LOW	2,740	13,107	0.506	0.398
	08 INSTITUTIONAL - HIG	864	3,066	0.000	0.000
	11 INDUST-PROC - LOW	617	3,563	0.000	0.000
	12 SERVICE - HIGH	831	4,956	13.969	10.991
	13 SERVICE - LOW	1,577	6,298	0.000	0.000
	14 CONTRACTORS	217,005	1,158,833	0.956	0.752
	TOTAL*	470,758	2,343,000	0.951	0.748
TOTAL ALL TOPS*	01 BUILDINGS	6,287,012	27,277,426	1.426	1.122
	02 RES. APTS. AND COND	183,076	786,801	0.327	0.257
	03 OFFICES	286,054	1,169,617	1.432	1.127
	04 MERCANTILE - HIGH	298,292	1,309,148	0.608	0.478
	05 MERCANTILE - MEDIUM	214,156	977,066	0.792	0.623
	06 MERCANTILE - LOW	150,038	606,952	1.054	0.829
	07 MOTELS AND HOTELS	38,845	179,263	1.682	1.323
	08 INSTITUTIONAL - HIG	118,172	642,391	0.439	0.345
	09 INSTITUTIONAL - LOW	320,255	1,524,298	0.783	0.616
	10 INDUST-PROC - HIGH	55,346	224,398	0.948	0.746
	11 INDUST-PROC - LOW	276,735	1,468,826	0.707	0.556
	12 SERVICE - HIGH	170,375	921,821	1.120	0.881
	13 SERVICE - LOW	95,621	453,370	1.414	1.113
	14 CONTRACTORS	237,519	1,267,376	0.899	0.707
	TOTAL*	8,731,496	38,808,753	1.271	1.000

## EXPLANATORY NOTES TO TABLES 5 AND 6

### BASIC GROUP I/SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

**INTRODUCTION**      The experience used in the relativity analysis and displayed in Tables 5 and 6 is the latest five years of accident year data as reported under the Commercial Statistical Plan. As in the overall review, loss costs have been adjusted to current ISO loss cost and prospective amount of insurance levels (with multiline aggregate loss costs adjusted additionally by the current implicit package modification factors). Incurred losses are adjusted to prospective cost levels, and are further adjusted by the Basic Group I large loss procedure and the Special Causes of Loss excess procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.

**COLUMN (1)**      AGGREGATE LOSS COSTS

The latest year adjusted aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulae used in the simultaneous review procedure.

**COLUMN (2)**      5 - YEAR AGGREGATE LOSS COSTS

The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).

**COLUMN (3)**      FIVE-YEAR EXPERIENCE RATIOS

These are the ratio of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in Column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in Column (1).

**COLUMN (4)**      CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO

A credibility procedure is applied to the initial experience ratios in column (3) on a cell-by-cell basis prior to the simultaneous review procedure. The credibility values are calculated using an empirical Bayesian credibility procedure. In the following discussion, cell refers to an individual combination of TOP, rating group or category, and territory (where applicable).

## EXPLANATORY NOTES TO TABLES 5 AND 6 (Cont'd)

### COLUMN (4) (Cont'd)

The important concept underlying empirical Bayesian credibility is that the credibility should depend both on the overall variation of the group of which the cell is a member, in addition to the variation of the yearly experience ratios for each cell. Therefore, if a cell's data is itself very stable then we would assign a relatively high credibility value, and vice versa.

The empirical Bayesian credibility formula for individual cell credibility is  $Z = ((C-3)/C) (P/(P+K)) + (3/C)$ . P equals the cell's five-year adjusted aggregate loss costs and C equals the number of unique combinations of rating variables (Territory, TOP and Rating Group/Category) within a class group. The K value is estimated from the underlying data using the empirical Bayes method and varies by TOP group and by territory where applicable. The three TOP groups used in this analysis are: Monoline (TOP 10), Premises (TOP's 31-35), and Operations (TOP's 36-38). The 3/C term corrects for the statistical bias associated with the credibility process. The minimum credibility that is possible is 3/C.

The calculated credibility (Z) is then applied to the five-year experience ratio with the complement of credibility applied to the credibility-weighted average of the individual experience ratios of the group, where group refers to the specified TOP/territory group. In a non-territory state, K values would be determined for the three TOP groups on an entire state basis.

### COLUMN (5)

#### WEIGHTED RELATIVITIES

The relativities are the ratios of the five-year credibility-weighted experience ratios shown in column (4) to the average five-year credibility-weighted experience ratio for all TOP's, rating groups and territories (where applicable) combined. These relativities represent how much better or worse than average the experience for a given cell is. They are used along with the aggregate loss costs in column (1) as input for the simultaneous review procedure.

ALABAMA

TABLE 7 - BASIC GROUP II RELATIVITY ANALYSIS

REFLECTING ADJUSTMENT OF APRIL 2011 TORNADO OUTBREAK TO BE A 1-IN-250 YEAR EVENT

	(1) ACCIDENT YRS ENDING 03/31/18	(2) ACCIDENT YRS 2009-2018 NON-HURR.	(3) FORMULA RELATIVITY (2) / 0.570	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELA- TIVITY E	(7) NORMALIZED FORMULA RELA- TIVITY	(8) INDICATED CHANGE G
MONOLINE	3,995,403	0.574	1.007	0.687	1.005	1.005	0.9850	
MULTILINE	23,056,910	0.568	0.996	0.777	0.997	1.023	1.0027	
-----	-----	-----	-----	-----	-----	-----	-----	
COVERAGE	27,052,313	0.570	1.000			1.0203 B	1.0001	
MULTILINE TOP								
31 MOTEL/HOTEL	631,893	*****	*****	*****	*****	1.010	0.9899	+0.5%
32 APARTMENT	2,075,212	0.809	1.419	0.268	1.112	1.098	1.0762	+9.3%
33 OFFICE	1,972,762	0.321	0.563	0.242	0.894	0.882	0.8645	-12.2%
34 MERCANTILE	6,005,144	*****	*****	*****	*****	1.096	1.0742	+9.1%
35 INSTITUTIONAL	7,257,759	0.595	1.044	0.638	1.028	1.015	0.9948	+1.0%
36 SERVICES	2,907,087	0.597	1.047	0.361	1.017	1.004	0.9840	-0.1%
37 INDUST/PROCESS	1,601,789	0.422	0.740	0.246	0.936	0.924	0.9056	-8.1%
38 CONTRACTORS	605,264	0.464	0.814	0.125	0.977	0.964	0.9448	-4.1%
-----	-----	-----	-----	-----	-----	-----	-----	
	23,056,910	0.568 B	0.996		1.010 B	1.023 B	1.0027 B	

- A - TOP 31 IMPLICIT PMF CAPPED AT 1.500.  
TOP 34 IMPLICIT PMF CAPPED AT 1.500.  
FOR COLUMNS (2) THROUGH (5), MONOLINE INCLUDES TOPS 31 34  
AT THESE CAPPED LEVELS AND MULTILINE EXCLUDES TOPS 31 34
- B - AVERAGE WEIGHTED BY COLUMN (1)
- C - CREDIBILITY =  $P / (P + K)$  WHERE P REPRESENTS THE TOTAL 10 YEAR ADJUSTED LOSS COSTS AND K = 45,000,000
- D -  $(5) = (3) * (4) + (1.000 - (4))$
- E - FOR UNCAPPED MULTILINE TOPS:  $(6) = (5) * (0.997 / 1.010)$   
FOR CAPPED MULTILINE TOPS:  $(6) = (1 + (8)) * (1.005)$
- F -  $(7) = (6) / 1.0203$
- G -  $(8) = (\text{NORMALIZED FORMULA RELATIVITY FOR TOP}) / (\text{NORMALIZED FORMULA MONOLINE (TOP 10) RELATIVITY}) - 1$

## EXPLANATORY NOTES TO TABLE 7

### BASIC GROUP II RELATIVITY ANALYSIS

#### OBJECTIVE

The explanations which follow clarify Table 7, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:

- (1) determine the monoline loss cost level need:
- (2) determine indicated changes to the eight property Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Basic Group II experience.

The BG II relativity analysis is based on non-hurricane loss experience only, as it is assumed that type of policy relativities are the same for both non-hurricane and hurricane perils. The resulting relativities apply to the total (hurricane plus non-hurricane) BG II loss costs.

#### COLUMN (1)

#### AGGREGATE LOSS COSTS

The latest fiscal year adjusted aggregate loss costs (adjusted in the same manner as in the overall review, i.e. to current manual loss cost and prospective amount of insurance levels, with multiline aggregate loss costs further adjusted to current IPMF level) are used as weights in the calculation of any totals shown in this table.

#### COLUMN (2)

#### 10 - YEAR NON-HURRICANE EXPERIENCE RATIO

These experience ratios are the ratio of the combined ten year CSP adjusted incurred non-hurricane losses (adjusted to current deductible and prospective cost levels and also adjusted to reflect the BGII excess loss procedure) to the combined ten year CSP adjusted aggregate loss costs. Any totals which are shown are weighted averages using the aggregate loss costs in Column (1). When a dash is displayed in the column, it indicates that the indicated IPMF which resulted from this procedure was capped. The procedure which follows when capping occurs is described below.

Note: The experience ratios in Table 12A reflect the adjustment of the April 2011 tornado outbreak to be a 1-in-250 year event.

## EXPLANATORY NOTES TO TABLE 7 (Cont'd)

COLUMN (3)

### FORMULA RELATIVITY

The formula relativities are the ratios of the ten year non-hurricane experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year non-hurricane experience ratio for monoline and multiline combined. These relativities represent how much better or worse than average the experience for a given type of policy is. Again, any totals which are shown are weighted averages and the display of a dash indicates that the resulting IPMF was capped. Unlike the BGI and SCL relativity analyses, the BGII analysis does not employ a simultaneous review procedure since a one way review is involved. That is, the overall loss cost change is only distributed across type of policy; no other rating variables are considered.

COLUMN (4)

### CREDIBILITY

The credibility of the experience for each type of policy is determined from the formula:

$$Z = \frac{P}{P + K}$$

where P is the ten year adjusted aggregate loss costs for a given type of policy, and K is a constant loss cost volume of \$45,000,000.

COLUMN (5)

### Z - WEIGHTED RELATIVITY

The weighted relativity is a weighted average of the individual TOP formula relativity and overall (coverage) formula relativity using credibility and its complement as the respective weights. Therefore, to the extent that the indication for a type of policy is not fully credible, the complement of credibility is assigned to the statewide coverage level change.



EXPLANATORY NOTES TO TABLE 7 (Cont'd)

COLUMN (6)

BALANCED FORMULA RELATIVITY

The individual multiline weighted relativities are balanced to the multiline weighted relativity level by applying a factor equal to the overall multiline relativity (i.e. the weighted relativity for all multiline combined which is shown on the top of the exhibit directly under the corresponding monoline relativity) divided by the average multiline relativity (i.e. the weighted average of the individual multiline weighted relativities which is shown on the bottom of the exhibit). When the indicated IPMF for a type of policy is capped, the balanced relativity is set equal to the product of the capped IPMF and the monoline balanced formula relativity, divided by the current IPMF.

COLUMN (7)

NORMALIZED FORMULA RELATIVITY

The normalized relativity is equal to the balanced formula relativity divided by the average monoline/multiline combined relativity. This balances the average monoline/multiline relativity to unity.

COLUMN (8)

INDICATED LOSS COST CHANGES

The indicated multiline (by TOP) changes are calculated by taking the ratio of the TOP relativity (Column 7) to the monoline relativity.

For each type of policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is redone to take this into account. If an IPMF has been capped it is so noted in footnote A.

## CRIME AND FIDELITY

The reviews for Burglary and Theft and for Fidelity are done on a multistate basis, combining both multiline and monoline experience. However, unlike other coverages included in a Commercial Package Policy, there is no simultaneous review procedure for either Burglary and Theft or for Fidelity in which separate loss cost level changes can be determined for multiline and monoline experience. In the absence of a simultaneous review procedure, we are unable to determine Type of Policy relativities with which to price CPP policies relative to monoline policies and therefore have assumed a multiline change of 0.0% and thus no change to the historic Crime or Fidelity IPMFs.

TABLES 8 AND 9

Tables 8 and 9 are not applicable this year. Commercial Inland Marine relativities are not being reviewed in 2019.

TABLE 10  
ALABAMA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
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	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	1.351	0.234	1.073	1.070	
31	0.854	0.107	0.983	0.981	-8.3%
32	0.956	0.074	0.997	0.994	-7.1%
33	1.106	0.113	1.011	1.009	-5.7%
34	0.930	0.225	0.984	0.981	-8.3%
35	0.535	0.128	0.923	0.921	-13.9%
36	0.725	0.111	0.965	0.962	-10.1%
CLASS GROUP					
01	0.989	0.160	0.998	1.001	
02	0.731	0.160	0.951	0.953	
03	0.952	0.101	0.995	0.997	
04	1.287	0.025	1.006	1.009	
05	0.453	0.046	0.964	0.967	
06	0.713	0.060	0.980	0.982	
07	1.768	0.105	1.062	1.064	
08	1.152	0.022	1.003	1.005	
09	0.792	0.134	0.969	0.971	
10	1.282	0.135	1.034	1.036	
11	1.056	0.091	1.005	1.007	
12	0.994	0.192	0.999	1.001	
13	0.921	0.048	0.996	0.998	
16	0.346	0.032	0.967	0.969	
	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	
TERRITORY					
1	1.234	0.167	1.036	1.040	
3	0.959	0.369	0.985	0.989	

\* INDICATED CHANGE = (BALANCED RELATIVITY FOR TOP) / (MONOLINE RELATIVITY (TOP 10)) - 1

TABLE 11  
ALABAMA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	1.087	0.225	1.019	1.015	
33	0.527	0.019	0.988	0.984	-3.1%
34	1.773	0.093	1.055	1.050	+3.4%
35	1.139	0.055	1.007	1.003	-1.2%
36	0.681	0.098	0.963	0.959	-5.5%
37	0.585	0.071	0.963	0.959	-5.5%
38	1.019	0.186	1.004	0.999	-1.6%
CLASS GROUP					
30	1.210	0.105	1.020	1.019	
31	1.098	0.159	1.015	1.014	
32	1.015	0.201	1.003	1.002	
33	0.925	0.086	0.993	0.992	
34	0.777	0.112	0.972	0.971	
35	0.523	0.019	0.988	0.987	
36	0.843	0.058	0.990	0.989	
37	1.255	0.057	1.013	1.012	
38	1.091	0.088	1.008	1.007	

\* INDICATED CHANGE = (BALANCED RELATIVITY FOR TOP) / (MONOLINE RELATIVITY (TOP 10)) - 1

TABLE 12  
ALABAMA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TERRITORY	ALL	(1)	(2)	(3)	(4)	(5)	(6)
		FISCAL A.Y.E. 03/31/2018 AGGREGATE	FISCAL A.Y.E. 2014 - 2018	FIVE YEAR EXPERIENCE	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
TYPE OF POLICY	CLASS GROUP	LOSS COSTS AT CURRENT LEVEL	AGG LOSS COST CURRENT LEVEL	RATIO			
10 MONOLINE	01 FOOD&BEV. (RETAIL)	\$605,730	\$2,888,415	0.909		147	
	02 RESTAURANTS	680,743	3,171,977	1.028		164	
	03 STORES	191,896	886,254	0.893		52	
	04 VENDING & RENTAL	10,084	65,135	2.881		9	
	05 FOOD & BEV. DIST.	135,056	512,857	0.586		14	
	06 NON-FOOD&BEV.DIST	102,419	594,623	0.630		22	
	07 CLUBS, AMSMT&SPRTS	180,705	787,145	4.547		85	
	08 HEALTH CARE FACIL	16,295	191,477	3.223		3	
	09 HOTELS AND MOTELS	403,282	1,853,740	1.095		109	
	10 SCHLS & CHURCHES	424,465	2,551,102	1.753		73	
	11 APARTMENTS	513,582	1,835,770	1.485		66	
	12 BUILDINGS&OFFICES	1,112,742	5,095,659	1.593		223	
	13 MISC. PREMISES	105,694	603,603	1.315		23	
	TOTAL *	\$4,482,693	\$21,037,757	1.412		990	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$866,643	\$3,642,359	0.713		209	
	TOTAL *	\$866,643	\$3,642,359	0.713		209	
32 MULT APARTMENT	11 APARTMENTS	\$503,695	\$1,814,513	1.176		85	
	12 BUILDINGS&OFFICES	81,468	261,526	0.419		14	
	TOTAL *	\$585,163	\$2,076,039	1.071		99	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$1,404,725	\$6,340,076	1.234		231	
	13 MISC. PREMISES	7,615	28,169	0.000		0	
	TOTAL *	\$1,412,340	\$6,368,245	1.227		231	
34 MULT MERCANTILE	01 FOOD&BEV. (RETAIL)	\$849,055	\$4,906,777	1.312		315	
	02 RESTAURANTS	1,178,854	6,957,699	0.733		297	
	03 STORES	718,449	3,277,394	0.982		111	
	04 VENDING & RENTAL	3,332	12,300	0.000		0	
	05 FOOD & BEV. DIST.	123,690	725,370	0.543		25	
	06 NON-FOOD&BEV.DIST	484,788	2,035,039	0.809		44	
	12 BUILDINGS&OFFICES	782,700	3,673,461	0.553		127	
	TOTAL *	\$4,140,868	\$21,588,040	0.863		919	

TABLE 12  
ALABAMA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
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SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TERRITORY	ALL	(1) FISCAL A.Y.E. 03/31/2018 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) FISCAL A.Y.E. 2014 - 2018 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
TYPE OF POLICY	CLASS GROUP						
35 MULT INSTITUT.	07 CLUBS,AMSMT&SPRTS	\$35,857	\$136,012	0.187		7	
	08 HEALTH CARE FACIL	147,087	1,044,943	0.489		6	
	10 SCHLS & CHURCHES	1,421,753	6,799,752	0.767		259	
	12 BUILDINGS&OFFICES	5,498	31,862	3.400		8	
	13 MISC. PREMISES	426	2,575	0.000		0	
	16 GOVT SUBDIVISIONS	60,163	352,114	0.192		19	
	TOTAL *	\$1,670,784	\$8,367,258	0.718		299	
36 MULT SERVICES	03 STORES	\$38,680	\$149,029	2.851		21	
	04 VENDING & RENTAL	28,438	195,649	0.749		3	
	07 CLUBS,AMSMT&SPRTS	661,851	2,630,329	0.876		109	
	08 HEALTH CARE FACIL	556	5,484	0.000		0	
	09 HOTELS AND MOTELS	30,749	132,997	0.975		6	
	10 SCHLS & CHURCHES	3,835	31,758	0.000		0	
	12 BUILDINGS&OFFICES	171,495	866,391	2.121		64	
	13 MISC. PREMISES	79,166	346,051	1.099		20	
	TOTAL *	\$1,014,770	\$4,357,688	1.175		223	
TOTAL ALL	TOP						
	01 FOOD&BEV. (RETAIL)	\$1,454,785	\$7,795,192	1.144		462	
	02 RESTAURANTS	1,859,597	10,129,676	0.841		461	
	03 STORES	949,025	4,312,677	1.040		184	
	04 VENDING & RENTAL	41,854	273,084	1.203		12	
	05 FOOD & BEV. DIST.	258,746	1,238,227	0.565		39	
	06 NON-FOOD&BEV.DIST	587,207	2,629,662	0.778		66	
	07 CLUBS,AMSMT&SPRTS	878,413	3,553,486	1.603		201	
	08 HEALTH CARE FACIL	163,938	1,241,904	0.759		9	
	09 HOTELS AND MOTELS	1,300,674	5,629,096	0.837		324	
	10 SCHLS & CHURCHES	1,850,053	9,382,612	0.992		332	
	11 APARTMENTS	1,017,277	3,650,283	1.332		151	
	12 BUILDINGS&OFFICES	3,558,628	16,268,975	1.224		667	
	13 MISC. PREMISES	192,901	980,398	1.172		43	
	16 GOVT SUBDIVISIONS	60,163	352,114	0.192		19	
	TOTAL *	\$14,173,261	\$67,437,386	1.078		2,970	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 13  
ALABAMA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) FISCAL A.Y.E. 03/31/2018 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) FISCAL A.Y.E. 2014 - 2018 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	30 SERVICE	\$370,582	\$1,798,891	1.142	1.154	70	1.034
	31 LIGHT CONTRACTING	515,322	2,228,888	1.565	1.582	247	1.029
	32 MEDIUM CONTRCTING	3,261,413	17,973,061	1.054	1.065	409	1.017
	33 HEAVY CONTRACTING	915,604	4,004,570	0.968	0.978	45	1.007
	34 DEALER OR DISTRIB	363,443	1,945,675	0.472	0.477	22	0.986
	35 LGT. MANUFACTURER	100,134	438,009	0.001	0.001	1	1.001
	36 MED. MANUFACTURER	441,068	2,217,922	0.769	0.777	24	1.004
	37 HVY. MANUFACTURER	231,361	1,482,420	1.885	1.906	24	1.027
	38 MISC. OPERATION	787,227	3,844,709	1.347	1.361	70	1.022
	TOTAL *	\$6,986,154	\$35,934,145	1.082		912	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$16,962	\$43,661	0.171	0.173	1	0.998
	32 MEDIUM CONTRCTING	3,529	21,386	0.000	0.000	0	0.986
	33 HEAVY CONTRACTING	87,788	354,633	1.028	1.039	4	0.976
	38 MISC. OPERATION	111,259	533,330	0.218	0.220	2	0.991
	TOTAL *	\$219,538	\$953,010	0.534		7	
34 MULT MERCANTILE	30 SERVICE	\$59,793	\$342,013	1.350	1.365	4	1.071
	32 MEDIUM CONTRCTING	65,302	237,852	3.401	3.438	11	1.053
	34 DEALER OR DISTRIB	780,635	3,530,413	1.395	1.410	131	1.020
	36 MED. MANUFACTURER	1,251	9,439	0.000	0.000	0	1.039
	38 MISC. OPERATION	65,669	258,521	0.657	0.664	13	1.057
	TOTAL *	\$972,650	\$4,378,238	1.475		159	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$8,740	\$51,963	5.561	5.622	3	1.017
	32 MEDIUM CONTRCTING	313,598	1,415,988	1.023	1.034	52	1.005
	TOTAL *	\$322,338	\$1,467,951	1.146		55	
36 MULT SERVICES	30 SERVICE	\$44,190	\$215,563	2.590	2.618	14	0.978
	31 LIGHT CONTRACTING	164,820	849,031	0.242	0.244	21	0.973
	32 MEDIUM CONTRCTING	241,020	899,198	0.176	0.177	10	0.961
	33 HEAVY CONTRACTING	49,113	160,322	0.000	0.000	0	0.952
	34 DEALER OR DISTRIB	462,778	2,069,961	0.745	0.753	74	0.932
	36 MED. MANUFACTURER	6,683	31,725	0.000	0.000	0	0.949
	38 MISC. OPERATION	365,490	1,204,086	0.896	0.906	55	0.966
	TOTAL *	\$1,334,094	\$5,429,886	0.651		174	



TABLE 13  
ALABAMA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
-----

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) FISCAL A.Y.E. 03/31/2018 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) FISCAL A.Y.E. 2014 - 2018 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
37 MULT INDUST/PROC.	31 LIGHT CONTRACTING	\$301	\$984	0.000	0.000	0	0.972
	32 MEDIUM CONTRCTING	86,000	459,534	0.567	0.573	6	0.961
	33 HEAVY CONTRACTING	86,913	436,797	0.639	0.646	5	0.951
	34 DEALER OR DISTRIB	1,890	7,044	3.344	3.380	1	0.931
	35 LGT. MANUFACTURER	137,092	621,658	0.713	0.720	6	0.946
	36 MED. MANUFACTURER	974,948	5,002,999	0.556	0.562	38	0.948
	37 HVY. MANUFACTURER	918,470	4,540,181	0.592	0.598	36	0.970
	38 MISC. OPERATION	17,989	109,812	0.000	0.000	0	0.965
	TOTAL *	\$2,223,603	\$11,179,009	0.582		92	
38 MULT CONTRACTORS	30 SERVICE	\$754,556	\$3,234,561	1.256	1.269	112	1.019
	31 LIGHT CONTRACTING	771,135	3,554,044	0.918	0.928	185	1.013
	32 MEDIUM CONTRCTING	1,940,360	8,188,066	1.118	1.130	245	1.001
	33 HEAVY CONTRACTING	917,822	4,860,856	0.932	0.942	82	0.992
	38 MISC. OPERATION	57,542	182,117	0.015	0.015	1	1.006
	TOTAL *	\$4,441,415	\$20,019,644	1.054		625	
TOTAL ALL TOP	30 SERVICE	\$1,229,121	\$5,591,028	1.274		200	
	31 LIGHT CONTRACTING	1,477,280	6,728,571	1.087		457	
	32 MEDIUM CONTRCTING	5,911,222	29,195,085	1.055		733	
	33 HEAVY CONTRACTING	2,057,240	9,817,178	0.917		136	
	34 DEALER OR DISTRIB	1,608,746	7,553,093	1.002		228	
	35 LGT. MANUFACTURER	237,226	1,059,667	0.412		7	
	36 MED. MANUFACTURER	1,423,950	7,262,085	0.619		62	
	37 HVY. MANUFACTURER	1,149,831	6,022,601	0.852		60	
	38 MISC. OPERATION	1,405,176	6,132,575	1.036		141	
	TOTAL *	\$16,499,792	\$79,361,883	0.989		2,024	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 14  
ALABAMA  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
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TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	0.988	0.372	0.995	0.996	
34	1.036	0.371	1.013	1.014	+ 1.8%
36	1.005	0.187	1.001	1.002	+ 0.6%
37	0.988	0.507	0.994	0.994	- 0.2%
CLASS GROUP					
3	0.924	0.500	0.961	0.965	
4	1.048	0.406	1.019	1.024	
5	1.107	0.132	1.014	1.018	
6	1.007	0.320	1.002	1.006	
7	1.006	0.182	1.001	1.005	

\* INDICATED CHANGE =  
(BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1

NOTE: THE INDICATED CHANGES BY TOP WERE FURTHER ADJUSTED BY THE FOLLOWING  
DIFFERENTIALS:           TOP 34: 0.972  
                                  TOP 36: 0.996  
                                  TOP 37: 1.006

TABLE 15  
MULTISTATE  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	03 MAN,DLR,DSTFD/DRG	\$18,227,491	\$79,500,211	0.856	0.869	1,461	0.961
	04 DLR,DST-NOTFD/DRG	9,616,743	42,155,667	1.119	1.136	640	1.019
	05 MAN.NTFD/DRG (LOW)	1,605,615	6,748,634	1.039	1.055	84	1.014
	06 MAN.NTFD/DRG (MED)	9,640,686	42,498,903	0.958	0.972	466	1.002
	07 MAN.NTFD/DRG (HGH)	2,568,561	11,286,663	1.018	1.033	129	1.001
	TOTAL *	\$41,659,096	\$182,190,078	0.957		2,780	
34 MULT MERCANTILE	03 MAN,DLR,DSTFD/DRG	\$5,166,155	\$25,851,441	1.131	1.148	791	0.979
	04 DLR,DST-NOTFD/DRG	29,011,611	140,165,685	1.037	1.052	1,972	1.038
	06 MAN.NTFD/DRG (MED)	7,625	57,567	0.000	0.000	0	1.020
	TOTAL *	\$34,185,391	\$166,074,693	1.051		2,763	
36 MULT SERVICES	04 DLR,DST-NOTFD/DRG	\$3,197,904	\$14,609,890	1.041	1.057	699	1.025
	06 MAN.NTFD/DRG (MED)	54,898	258,512	0.781	0.793	1	1.008
	TOTAL *	\$3,252,802	\$14,868,402	1.037		700	
37 MULT INDUST/PROC.	03 MAN,DLR,DSTFD/DRG	\$16,474,514	\$81,117,947	0.888	0.901	2,761	0.960
	05 MAN.NTFD/DRG (LOW)	4,070,679	20,897,437	1.092	1.108	269	1.012
	06 MAN.NTFD/DRG (MED)	28,248,516	131,744,418	0.987	1.002	1,582	1.001
	07 MAN.NTFD/DRG (HGH)	7,346,721	36,933,393	0.965	0.980	537	1.000
	TOTAL *	\$56,140,430	\$270,693,195	0.963		5,149	
TOTAL ALL TOP	03 MAN,DLR,DSTFD/DRG	\$39,868,160	\$186,469,599	0.905		5,013	
	04 DLR,DST-NOTFD/DRG	41,826,258	196,931,242	1.056		3,311	
	05 MAN.NTFD/DRG (LOW)	5,676,294	27,646,071	1.077		353	
	06 MAN.NTFD/DRG (MED)	37,951,725	174,559,400	0.979		2,049	
	07 MAN.NTFD/DRG (HGH)	9,915,282	48,220,056	0.979		666	
	TOTAL *	\$135,237,719	\$633,826,368	0.985		11,392	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 16  
ALABAMA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	0.969	0.752	0.977	0.973	
34	0.959	0.541	0.978	0.974	+ 0.1%
36	0.986	0.516	0.993	0.989	+ 1.6%
37	0.972	0.138	0.996	0.993	+ 2.1%
38	1.025	0.962	1.024	1.020	+ 4.8%
CLASS GROUP					
1	0.918	0.550	0.954	0.948	
2	1.037	0.495	1.018	1.012	
11	1.095	0.352	1.032	1.026	
12	1.016	1.000	1.016	1.010	
13	0.785	0.266	0.938	0.932	

\* INDICATED CHANGE =  
(BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) - 1

TABLE 16A  
MULTISTATE  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS \*

STATE	(1) BAILEY FORMULA RELATIV	(2) CREDIBILITY Z	(3) Z-WTD RELATIV	(4) BALANCED RELATIV.
	1.418	0.386	1.144	1.144
	1.202	0.623	1.122	1.121
	1.425	0.229	1.085	1.084
	1.144	0.427	1.059	1.059
	1.413	0.160	1.057	1.057
	1.437	0.153	1.057	1.057
	1.197	0.263	1.049	1.048
	1.096	0.505	1.048	1.047
	1.135	0.345	1.045	1.044
	1.122	0.368	1.043	1.043
	1.191	0.231	1.041	1.041
	1.128	0.326	1.040	1.040
	1.173	0.239	1.039	1.039
	1.148	0.224	1.031	1.031
	1.059	0.435	1.025	1.025
	1.052	0.453	1.023	1.023
	1.257	0.100	1.023	1.023
	1.083	0.227	1.018	1.018
	1.101	0.187	1.018	1.018
	1.090	0.192	1.017	1.016
	1.045	0.369	1.016	1.016
	1.037	0.307	1.011	1.011
	1.019	0.449	1.008	1.008
	1.027	0.143	1.004	1.003
	1.002	0.494	1.001	1.000
	1.002	0.131	1.000	1.000
	0.994	0.097	0.999	0.999
	0.992	0.402	0.997	0.997
	0.989	0.377	0.996	0.995
	0.975	0.190	0.995	0.995
	0.965	0.458	0.984	0.983
	0.924	0.241	0.981	0.981
	0.933	0.349	0.976	0.976
	0.895	0.260	0.972	0.971
Alabama	0.892	0.285	0.968	0.968
	0.788	0.160	0.963	0.962
	0.693	0.104	0.963	0.962
	0.889	0.364	0.958	0.958
	0.759	0.154	0.958	0.958
	0.843	0.288	0.952	0.952
	0.720	0.158	0.949	0.949
	0.765	0.195	0.949	0.949
	0.906	0.547	0.948	0.947
	0.793	0.238	0.946	0.946
	0.512	0.084	0.945	0.945
	0.639	0.136	0.941	0.941
	0.813	0.308	0.938	0.938
	0.889	0.581	0.934	0.933
	0.846	0.470	0.924	0.924
	0.756	0.321	0.914	0.914
	0.602	0.179	0.913	0.913
	0.804	0.575	0.882	0.882

\* Sorted by balanced relative change.

TABLE 17  
ALABAMA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS  
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SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	\$43,593	\$165,511	3.672	3.387	18	0.893
	02 RET.STRS-NTFD/DRG	30,172	184,109	0.249	0.230	7	0.953
	11 COMP. OPS. (LOW)	53,260	230,040	0.315	0.291	2	0.967
	12 COMP. OPS. (MED)	1,488,130	6,314,572	1.192	1.100	101	0.951
	13 COMP. OPS. (HGH)	162,031	862,290	1.017	0.938	5	0.878
	TOTAL *	\$1,777,186	\$7,756,522	1.195		133	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$141,014	\$777,577	2.410	2.224	73	0.894
	02 RET.STRS-NTFD/DRG	89,569	337,842	1.180	1.088	14	0.954
	12 COMP. OPS. (MED)	55,154	300,125	0.924	0.853	2	0.952
	TOTAL *	\$285,737	\$1,415,544	1.738		89	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$6,872	\$46,408	0.210	0.194	3	0.908
	02 RET.STRS-NTFD/DRG	215,360	784,512	0.675	0.623	32	0.969
	11 COMP. OPS. (LOW)	8,314	34,853	3.635	3.354	1	0.982
	12 COMP. OPS. (MED)	80,629	263,648	0.623	0.575	4	0.967
	13 COMP. OPS. (HGH)	15,483	93,243	0.124	0.114	1	0.892
	TOTAL *	\$326,658	\$1,222,664	0.702		41	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	\$1	\$1	0.000	0.000	0	0.911
	11 COMP. OPS. (LOW)	496	2,005	0.000	0.000	0	0.986
	12 COMP. OPS. (MED)	41,871	205,416	0.129	0.119	2	0.970
	13 COMP. OPS. (HGH)	0	116	0.000	0.000	0	0.895
	TOTAL *	\$42,368	\$207,538	0.128		2	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$104,995	\$526,427	0.249	0.230	5	1.013
	12 COMP. OPS. (MED)	2,336,734	11,957,508	0.793	0.732	165	0.997
	13 COMP. OPS. (HGH)	271,089	1,312,779	0.795	0.734	12	0.920
	TOTAL *	\$2,712,818	\$13,796,714	0.772		182	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$191,480	\$989,497	2.619		94	
	02 RET.STRS-NTFD/DRG	335,101	1,306,463	0.772		53	
	11 COMP. OPS. (LOW)	167,065	793,325	0.438		8	
	12 COMP. OPS. (MED)	4,002,518	19,041,269	0.933		274	
	13 COMP. OPS. (HGH)	448,603	2,268,428	0.852		18	
	TOTAL *	\$5,144,767	\$24,398,982	0.962		447	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

TABLE 18  
MULTISTATE  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1) CALENDAR A.Y.E. 12/31/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	(3) FIVE YEAR EXPERIENCE RATIO	(4) RELATIV.	(5) NUMBER OF OCCURRENCES	(6) BAL CELL RELATIV.
10 MONOLINE	01 RET. STRS-FOOD/DRG	\$2,570,942	\$11,000,189	0.978		762	
	02 RET. STRS-NTFD/DRG	2,629,603	11,663,817	1.219		494	
	11 COMP. OPS. (LOW)	4,024,036	18,069,271	1.329		705	
	12 COMP. OPS. (MED)	82,107,926	364,826,722	1.080		6,242	
	13 COMP. OPS. (HGH)	7,801,373	39,341,081	0.703		282	
	TOTAL *	\$99,133,880	\$444,901,080	1.062		8,485	
34 MULT MERCANTILE	01 RET. STRS-FOOD/DRG	\$8,002,266	\$37,342,335	0.940		3,591	
	02 RET. STRS-NTFD/DRG	5,186,195	23,434,483	1.012		665	
	12 COMP. OPS. (MED)	2,043,786	10,139,349	1.186		140	
	TOTAL *	\$15,232,247	\$70,916,167	0.997		4,396	
36 MULT SERVICES	01 RET. STRS-FOOD/DRG	\$729,961	\$3,439,653	1.065		197	
	02 RET. STRS-NTFD/DRG	12,256,900	48,452,562	1.088		2,518	
	11 COMP. OPS. (LOW)	3,094,937	14,012,389	1.111		510	
	12 COMP. OPS. (MED)	4,447,208	21,021,492	0.941		694	
	13 COMP. OPS. (HGH)	989,332	5,061,195	1.199		87	
	TOTAL *	\$21,518,338	\$91,987,291	1.065		4,006	
37 MULT INDUST/PROC.	01 RET. STRS-FOOD/DRG	\$26,867	\$90,627	2.388		1	
	11 COMP. OPS. (LOW)	114,535	530,208	1.229		19	
	12 COMP. OPS. (MED)	3,550,014	17,334,430	1.039		268	
	13 COMP. OPS. (HGH)	40,532	307,938	0.580		0	
	TOTAL *	\$3,731,948	\$18,263,203	1.050		288	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$8,122,432	\$37,446,153	1.157		634	
	12 COMP. OPS. (MED)	143,209,202	677,397,379	1.125		12,565	
	13 COMP. OPS. (HGH)	14,631,915	67,788,410	0.919		693	
	TOTAL *	\$165,963,549	\$782,631,942	1.108		13,892	
TOTAL ALL TOP	01 RET. STRS-FOOD/DRG	\$11,330,036	\$51,872,804	0.960		4,551	
	02 RET. STRS-NTFD/DRG	20,072,698	83,550,862	1.086		3,677	
	11 COMP. OPS. (LOW)	15,355,940	70,058,021	1.193		1,868	
	12 COMP. OPS. (MED)	235,358,136	1,090,719,372	1.105		19,909	
	13 COMP. OPS. (HGH)	23,463,152	112,498,624	0.858		1,062	
	TOTAL *	\$305,579,962	\$1,408,699,683	1.084		31,067	

\* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

OBJECTIVES

The objectives of this procedure are to:

- 1) determine monoline loss cost level needs for the appropriate rating variables;
- 2) determine indicated changes to the eight liability Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Premises/Operations and Products/Completed Operations data.

EXPERIENCE  
BASE

The experience used in this relativity analysis is the latest five (5) years of accident year data, as reported under the Commercial Statistical Plan with aggregate loss costs adjusted to current loss cost level (multiline aggregate loss costs adjusted additionally by the current Implicit Package Modification Factors). Losses have been trended and developed in the Relativity Analysis. ALCCCL have been trended.

SIMULTANEOUS  
DETERMINATION  
OF RATING  
VARIABLE  
RELATIVITIES

Once the aggregate loss costs at current level and incurred losses used in the analysis have been appropriately adjusted, the 5-year experience ratios are calculated for each combination of the appropriate rating variables. From these ratios, relativities to the statewide 5-year experience ratio are calculated. These relativities are then used in a minimum bias iterative review procedure, which simultaneously determines the relativities for each rating variable.

The purpose of a simultaneous review procedure is to arrive at a set of relativities for each rating variable that best represent the experience. For example, the type of policy relativities will serve to derive the relationship of CPP policies relative to monoline policies, via the PMF, while the class group and territory (if applicable) relativities will serve to derive the relationship of the various classification and territories relative to one another. An iterative technique is used to derive relativities for each rating variable. This procedure is in contrast to a one-way type of review, wherein relativities for each rating variable would each be reviewed separately.

Such one-way types of review do not take into account differing percentages of experience of each rating variable within the other rating variables. The simultaneous review procedure accounts for these different distributions in generating relativities for each rating variable.

RATING  
VARIABLES  
USED

For Premises/Operations and Products/Completed Operations, the rating variables used in the relativity analysis are as follows:

Manufacturers and Contractors -	type of policy and class group
Owners, Landlords and Tenants -	type of policy, territory and class group
Products -	type of policy and class group
Local Products/Completed Operations-	type of policy, state and class group



EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

ITERATIVE  
PROCEDURE

The iterative technique referred to in the previous paragraph solves for a set of relativities for each rating variable based on the experience for the cells; that is, based on the experience ratio and latest year adjusted aggregate loss cost volume for each combination of rating variables relative to the experience ratio and adjusted aggregate loss cost volume for all combinations of rating variables combined. Specifically, the iterative procedure uses the following formulas:

For Owners, Landlords and Tenants:

$$TOP_i = \frac{\sum_j \sum_k W_{ijk} r_{ijk}}{\sum_j \sum_k W_{ijk} CG_j TER_k} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i \sum_k W_{ijk} r_{ijk}}{\sum_i \sum_k W_{ijk} TOP_i TER_k} \quad \text{where } 1 \leq j \leq n$$

$$TER_k = \frac{\sum_i \sum_j W_{ijk} r_{ijk}}{\sum_i \sum_j W_{ijk} TOP_i CG_j} \quad \text{where } 1 \leq k \leq p$$

$TOP_i$  is the relative change for the  $i^{th}$  type of policy;

$CG_j$  is the relative change for the  $j^{th}$  class group;

$TER_k$  is the relative change for the  $k^{th}$  territory;

$W_{ijk}$  is the aggregate loss costs at current level for the  $i^{th}$

type of policy,  $j^{th}$  class group and  $k^{th}$  territory;

$r_{ijk}$  is the relative change for the  $i^{th}$  type of policy,

$j^{th}$  class group and  $k^{th}$  territory;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

$p$  is the number of territories in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

For Manufacturers and Contractors, and Products:

$$TOP_i = \frac{\sum_j W_{ij} r_{ij}}{\sum_j W_{ij} CG_j} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i W_{ij} r_{ij}}{\sum_i W_{ij} TOP_i} \quad \text{where } 1 \leq j \leq n$$

$TOP_i$  is the relative change for the  $i^{th}$  type of policy;

$CG_j$  is the relative change for the  $j^{th}$  class group;

$W_{ij}$  is the aggregate loss costs at current level for the  $i^{th}$

type of policy and  $j^{th}$  class group;

$r_{ij}$  is the relative change for the  $i^{th}$  type of policy

and  $j^{th}$  class group;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
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For Local Products/Completed Operations:

$$TOP_i = \frac{\sum_j \sum_k W_{ijk} r_{ijk}}{\sum_j \sum_k W_{ijk} CG_j ST_k} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i \sum_k W_{ijk} r_{ijk}}{\sum_i \sum_k W_{ijk} TOP_i ST_k} \quad \text{where } 1 \leq j \leq n$$

$$ST_k = \frac{\sum_i \sum_j W_{ijk} r_{ijk}}{\sum_i \sum_j W_{ijk} TOP_i CG_j} \quad \text{where } 1 \leq k \leq p$$

$TOP_i$  is the relative change for the  $i^{th}$  type of policy;

$CG_j$  is the relative change for the  $j^{th}$  class group;

$ST_k$  is the relative change for the  $k^{th}$  state;

$W_{ijk}$  is the aggregate loss costs at current level for the  $i^{th}$

type of policy,  $j^{th}$  class group and  $k^{th}$  state;

$r_{ijk}$  is the relative change for the  $i^{th}$  type of policy,

$j^{th}$  class group and  $k^{th}$  state;

$m$  is the number of types of policy in the analysis;

$n$  is the number of class groups in the analysis;

$p$  is the number of states in the analysis;

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

ITERATIVE  
PROCEDURE  
(Cont'd)

For example, for Owners, Landlords and Tenants, the procedure starts by inserting the actual relativities for type of policy and class group into the third formula to get a territory relativity. This result is then used with the class group relativity in the first formula to get a new type of policy relativity, which in turn is substituted along with the territory relativity into the second formula to get a new class group relativity. The process continues on in that fashion until there is no appreciable difference from one iteration to the next.

APPLICATION OF  
CREDIBILITY

Consideration is then given to the credibility of the experience for each rating variable. The credibility of each of these categories is based on the formula

$$Z = \sqrt{P/18,000} \text{ for Owners, Landlords and Tenants, } Z = \sqrt{P/18,000} \text{ for}$$

$$\text{Manufacturers and Contractors and } Z = \sqrt{P/20,000} \text{ for Products, where P is the 5}$$

year occurrence total for a given class group, territory or type of policy. For Local Products/Completed Operations, separate formulas are used to calculate the credibility of the experience for each type of policy and class group versus the

credibility of the experience for each state, namely  $Z = \sqrt{P/15,000}$  for type of

policy and class group, and  $Z = \sqrt{P/5,500}$  for state (in this case, P is the 5 year

occurrence total for a given state). Credibility-weighted relativities are then calculated as follows:

$$W = R^Z \quad \text{where:}$$

Z is the class group, territory, state or type of policy credibility;

R is the class group, territory, state or type of policy relativity;

W is the credibility-weighted relativity.

The resulting credibility-weighted relativities are then balanced to assure that the average relativity remains at unity.

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

MULTILINE  
CONSIDERATIONS

The monoline relativities and the class group, territory (if applicable) and state relativities which result from the aforementioned procedures are then used to generate indicated monoline classification loss cost changes. The multiline relativities are used to generate multiline indications that apply to the current Implicit Package Modification Factors. The indicated IPMFs are calculated as follows:

$$\text{TOP y indicated IPMF} = \frac{(\text{TOP y current IPMF}) \times (\text{TOP y relativity})}{(\text{monoline relativity})}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account.

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COMMERCIAL PACKAGE POLICY

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**COMMERCIAL LINES MANUAL  
DIVISION NINE – MULTIPLE LINE  
COMMERCIAL PACKAGE POLICY  
PACKAGE MODIFICATION FACTORS**

**ALABAMA(01)**

**PACKAGE MODIFICATION FACTORS**

<b>Package Modification Assignment (PMA)</b>	<b>Premium From CLM Division</b>			
	<b>Two</b>	<b>Three, Four, Five, Eight  Property</b>	<b>Four, Six  Liability</b>	<b>All Other Divisions</b>
Apartment House	.90	1.00	1.00	1.00
Contractors	.90	1.00	0.88	1.00
Industrial & Processing	.90	0.92	0.94	1.00
Institutional	.90	1.00	0.80	1.00
Mercantile	.90	1.00	1.00	1.00
Motel/Hotel	.90	1.00	0.93	1.00
Office	.90	0.92	0.83	1.00
Service	.90	1.00	0.88	1.00

**Table 1. Package Modification Factors**