

RULES – INFORMATION

APRIL 18, 2019

COMMERCIAL MULTIPLE LINE

LI-ML-2019-008

MAINE COMMERCIAL PACKAGE POLICY PACKAGE MODIFICATION FACTOR ANALYSIS FURNISHED FOR INFORMATION

KEY MESSAGE

This analysis is provided for your information. We are NOT revising the current package modification factors based on this analysis.

BACKGROUND

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

ISO ACTION

We are:

- NOT making a submission to the Insurance Department based on this analysis.
- NOT implementing any changes, at this time, to the current package modification factors for this jurisdiction.

COMPANY ACTION

You may wish to evaluate your package modification factor needs. The methods described in the attached analysis are based on the judgments of Insurance Services Office, Inc. You should evaluate and substitute your own judgments and procedures where appropriate, and consider your own loss experience when determining your package modification factor needs.

If you decide to independently file a package modification factor revision, you must comply with the applicable regulatory filing requirements.

REFERENCE(S)

[LI-ML-2019-004](#) (04/03/2019) Commercial Package Policy Experience Reviewed By Staff

ATTACHMENT(S)

- Informational Analysis
- Excel Workbook

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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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 document 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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MAINE

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

EXECUTIVE SUMMARY

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.
-

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. & Liab. Total</u>
Motel/Hotel	0.0%	+7.5%	+3.7%
Apartment	0.0%	0.0%	0.0%
Office	-2.2%	-1.0%	-1.4%
Mercantile	-2.7%	-1.0%	-1.9%
Institutional	+3.1%	+3.3%	+3.2%
Services	+1.3%	+3.3%	+2.1%
Indust./Proc.	-1.3%	+2.2%	+0.2%
Contractors	<u>0.0%</u>	<u>+6.6%</u>	<u>+5.7%</u>
Statewide	+0.2%	+3.2%	+1.6%

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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ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

EXECUTIVE SUMMARY

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.
-

PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-16-RLA1	ML-14-RLA1	ML-10-RLA1
<u>Dates</u>			
Implemented	01/01/17	11/01/14	11/01/10
<u>Changes</u>			
Indicated	+2.6%	+0.2%	-1.4%
Filed	+2.6%	+0.2%	-1.4%
Implemented	+2.6%	+0.2%	-1.4%

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ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

EXECUTIVE SUMMARY

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.

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. Hanover Insurance Company
 2. Liberty Mutual Insurance Company
 3. Admiral Insurance Company
 4. Frankenmuth Mutual Insurance Company
 5. Vermont Mutual Insurance Company
 6. Tokio Marine Companies
 7. Travelers Indemnity Company
 8. Concord General Mutual Insurance Company
 9. NGM Insurance Company
 10. Quincy Mutual Fire 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). 73.0%.

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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ADVISORY PACKAGE MODIFICATION FACTOR REVIEW
COMMERCIAL PACKAGE POLICY

EXECUTIVE SUMMARY

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.

COMMERCIAL PACKAGE POLICY

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COMMERCIAL PACKAGE POLICY

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COMMERCIAL PACKAGE POLICY METHODOLOGY OVERVIEW

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.

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.

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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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%	0.93	1.00	7.5%	3.7%
APARTMENT (32)	0.94	0.94	0.0%	1.00	1.00	0.0%	0.0%
OFFICE (33)	0.92	0.90	-2.2%	1.00	0.99	-1.0%	-1.4%
MERCANTILE (34)	0.74	0.72	-2.7%	0.99	0.98	-1.0%	-1.9%
INSTITUTION (35)	0.64	0.66	3.1%	0.92	0.95	3.3%	3.2%
SERVICES (36)	0.77	0.78	1.3%	0.90	0.93	3.3%	2.1%
IND/PROC (37)	0.77	0.76	-1.3%	0.90	0.92	2.2%	0.2%
CONTRACTORS (38)	1.00	1.00	0.0%	0.91	0.97	6.6%	5.7%
STATEWIDE			0.2%			3.2%	1.6%

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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	507,906	0.848	3.1%	0.874	0.868
BASIC GRP II	149,576	1.063	1.1	1.075	1.067
SP CAUSE/LOSS	305,894	1.350	-2.0	1.323	1.313
*CRIME	5,396	0.809	0.0	0.809	0.809
*INL. MAR.	58	0.910	0.0	0.910	0.910
*FIDELITY	8,245	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>977,075</u>	<u>1.00</u>	<u>0.7%</u>	<u>1.007</u>	<u>1.00</u>
LIABILITY-					
OL&T	951,256	0.934	13.0%	1.055	1.000
<u>TOTAL</u>	<u>951,256</u>	<u>0.93</u>	<u>13.5%</u>	<u>1.055</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,928,331		7.0%		

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	1,881,676	0.940	-0.7%	0.933	0.946
BASIC GRP II	237,308	0.788	3.3	0.814	0.825
SP CAUSE/LOSS	589,896	0.994	-0.6	0.988	1.001
*CRIME	374	0.809	0.0	0.809	0.809
*INL. MAR.	124	0.910	0.0	0.910	0.910
*FIDELITY	8,060	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>2,717,438</u>	<u>0.94</u>	<u>-0.8%</u>	<u>0.932</u>	<u>0.94</u>
LIABILITY-					
OL&T	496,992	1.000	6.9%	1.069	1.000
<u>TOTAL</u>	<u>496,992</u>	<u>1.00</u>	<u>6.9%</u>	<u>1.069</u>	<u>1.00</u>
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PROP. & LIAB. TOTAL	3,214,430		0.4%		

* 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)

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	265,932	0.713	-0.6%	0.709	0.709
BASIC GRP II	90,993	0.958	2.2	0.979	0.980
SP CAUSE/LOSS	223,801	1.282	-2.2	1.254	1.254
*CRIME	2,179	0.809	0.0	0.809	0.809
*INL. MAR.	971	0.910	0.0	0.910	0.910
*FIDELITY	5,946	1.000	0.0	1.000	1.000
TOTAL	589,822	0.92	-2.5%	0.897	0.90
LIABILITY-					
OL&T	917,113	1.019	-1.7%	1.002	1.007
M&C	32,602	0.657	2.4	0.673	0.676
TOTAL	949,715	1.00	-1.6%	0.984	0.99
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,539,537		-1.9%		
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	1,219,075	0.500	0.0%	0.500	0.500
BASIC GRP II	513,865	1.019	3.8	1.058	1.058
SP CAUSE/LOSS	1,029,963	1.091	-2.6	1.063	1.063
*CRIME	23,652	0.809	0.0	0.809	0.809
*INL. MAR.	73,322	0.910	0.0	0.910	0.910
*FIDELITY	83,527	1.000	0.0	1.000	1.000
TOTAL	2,943,404	0.74	-2.7%	0.720	0.72
LIABILITY-					
OL&T	1,479,266	1.035	-2.0%	1.014	1.020
M&C	431,411	1.100	0.6	1.107	1.113
LOCAL PRODUCT	68,297	0.656	0.1	0.657	0.660
*MULTI PRODUCT	447,358	0.847	0.7	0.853	0.853
TOTAL	2,426,332	0.99	-1.1%	0.979	0.98
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	5,369,736		-2.0%		

* 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)

INSTITUTION (35) *****	(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	1,138,270	0.517	-1.8%	0.508	0.508
BASIC GRP II	473,514	0.773	6.0	0.819	0.820
SP CAUSE/LOSS	780,449	0.833	4.1	0.867	0.868
*CRIME	15,097	0.809	0.0	0.809	0.809
*INL. MAR.	2,971	0.910	0.0	0.910	0.910
*FIDELITY	67,820	1.000	0.0	1.000	1.000
TOTAL	2,478,121	0.64	2.4%	0.656	0.66
LIABILITY-					
OL&T	678,694	0.954	-0.2%	0.952	0.957
M&C	5,871	0.552	3.8	0.573	0.576
TOTAL	684,565	0.92	2.9%	0.947	0.95
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	3,162,686		2.5%		
SERVICES (36) *****	(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	1,271,861	0.649	2.2%	0.663	0.664
BASIC GRP II	428,326	1.373	4.0	1.428	1.429
SP CAUSE/LOSS	489,259	0.845	-3.0	0.820	0.820
*CRIME	6,735	0.809	0.0	0.809	0.809
*INL. MAR.	12,662	0.910	0.0	0.910	0.910
*FIDELITY	40,279	1.000	0.0	1.000	1.000
TOTAL	2,249,122	0.77	1.6%	0.782	0.78
LIABILITY-					
OL&T	571,752	0.956	-0.6%	0.950	0.955
M&C	529,343	0.836	7.3	0.897	0.902
LOCAL PRODUCT	186,563	0.920	1.6	0.935	0.940
*MULTI PRODUCT	39,141	0.925	-1.0	0.916	0.916
TOTAL	1,326,799	0.90	2.7%	0.924	0.93
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	3,575,921		2.0%		

* 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)

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	773,903	0.662	-0.5%	0.659	0.659
BASIC GRP II	175,370	0.910	1.2	0.921	0.921
SP CAUSE/LOSS	363,211	0.998	-1.1	0.987	0.988
*CRIME	2,057	0.809	0.0	0.809	0.809
*INL. MAR.	811	0.910	0.0	0.910	0.910
*FIDELITY	11,710	1.000	0.0	1.000	1.000
TOTAL	1,327,062	0.77	-1.4%	0.759	0.76
LIABILITY-					
M&C	576,535	0.965	3.3	0.997	1.002
LOCAL PRODUCT	35,337	0.605	2.1	0.618	0.621
*MULTI PRODUCT	418,893	0.852	1.3	0.863	0.863
TOTAL	1,030,765	0.90	2.2%	0.920	0.92
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,357,827		0.2%		
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	414,326	0.862	0.8%	0.869	0.869
BASIC GRP II	85,766	0.993	3.3	1.026	1.026
SP CAUSE/LOSS	269,528	1.312	-2.2	1.283	1.284
*CRIME	1,109	0.809	0.0	0.809	0.809
*INL. MAR.	571	0.910	0.0	0.910	0.910
*FIDELITY	17,897	1.000	0.0	1.000	1.000
TOTAL	789,197	1.00	-0.4%	0.996	1.00
LIABILITY-					
M&C	2,853,945	1.015	4.2	1.058	1.063
LOCAL PRODUCT	1,944,945	0.813	4.8	0.852	0.857
TOTAL	4,798,890	0.91	5.8%	0.963	0.97
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	5,588,087		5.0%		

* 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	7,472,949	0.666	0.1%	0.667	0.669
BASIC GRP II	2,154,718	0.960	3.8	0.996	0.998
SP CAUSE/LOSS	4,052,001	1.007	-0.8	0.999	1.000
*CRIME	56,599	0.809	0.0	0.809	0.809
*INL. MAR.	91,490	0.910	0.0	0.910	0.910
*FIDELITY	243,484	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>14,071,241</u>	<u>0.789</u>	<u>0.0%</u>	<u>0.789</u>	<u>0.791</u>
LIABILITY-					
OL&T	5,095,073	0.989	2.1%	1.009	0.996
M&C	4,429,707	0.986	4.1	1.026	1.031
LOCAL PRODUCT	2,235,142	0.811	4.3	0.846	0.850
*MULTI PRODUCT	905,392	0.852	0.9	0.860	0.860
<u>TOTAL</u>	<u>12,665,314</u>	<u>0.937</u>	<u>3.5%</u>	<u>0.970</u>	<u>0.967</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	26,736,555		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)	0.97	1.032	1.00
APARTMENT (32)	0.95	0.952	0.95
OFFICE (33)	0.96	0.949	0.95
MERCANTILE (34)	0.85	0.817	0.82
INSTITUTION (35)	0.69	0.702	0.70
SERVICES (36)	0.81	0.830	0.83
IND/PROC (37)	0.84	0.823	0.82
CONTRACTORS (38)	0.92	0.967	0.97

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">. Motels and Hotels (TOP 31). Apartments (TOP 32). Offices (TOP 33). Mercantile Operations (TOP 34). Institutions (TOP 35). Service Operations (TOP 36). Industrial and Processing Operations (TOP 37). Contractors (TOP 38)
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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MAINE

TABLE 3 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE **
10	0.925	0.087	0.993	0.999	
31	2.739	0.024	1.024	1.030	+3.1%
32	0.826	0.070	0.987	0.992	-0.7%
33	0.480	0.017	0.988	0.993	-0.6%
34 *	-----	-----	0.993	0.999	0.0%
35	0.626	0.053	0.975	0.981	-1.8%
36	1.279	0.063	1.016	1.021	+2.2%
37	0.702	0.033	0.988	0.994	-0.5%
38	1.049	0.022	1.001	1.007	+0.8%

RATING
GROUP

01	0.806	0.107	0.977	0.981
02	1.440	0.070	1.026	1.030
03	1.209	0.044	1.008	1.012
04	1.182	0.128	1.022	1.026
06	0.446	0.064	0.950	0.953
07	1.240	0.025	1.005	1.009
08	1.093	0.089	1.008	1.012
09	0.523	0.079	0.950	0.954
10	1.039	0.061	1.002	1.006
11	1.072	0.013	1.001	1.005
13	1.169	0.070	1.011	1.015
14	0.767	0.040	0.989	0.993
15	1.327	0.029	1.008	1.012
17	0.986	0.020	1.000	1.004
18	1.041	0.018	1.001	1.005
21	1.210	0.020	1.004	1.008
22	0.973	0.029	0.999	1.003

* - TOP 34 IMPLICIT PMF CAPPED AT 0.500.

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

MAINE

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	1.285	0.034	1.009	1.008	
31	0.719	0.037	0.988	0.988	-2.0%
32	1.032	0.070	1.002	1.002	-0.6%
33	0.672	0.034	0.987	0.986	-2.2%
34	0.857	0.117	0.982	0.982	-2.6%
35	1.629	0.099	1.049	1.049	+4.1%
36	0.689	0.060	0.978	0.978	-3.0%
37	0.925	0.040	0.997	0.997	-1.1%
38	0.656	0.034	0.986	0.986	-2.2%
CATEGORY					
01	1.025	0.463	1.011	1.010	
02	0.949	0.077	0.996	0.994	
03	1.507	0.055	1.023	1.021	
04	1.243	0.048	1.010	1.009	
05	1.344	0.048	1.014	1.013	
06	0.520	0.016	0.990	0.988	
07	0.919	0.038	0.997	0.995	
08	0.593	0.116	0.941	0.940	
09	0.626	0.065	0.970	0.968	
10	0.079	0.018	0.955	0.954	
11	1.375	0.027	1.009	1.007	
12	1.530	0.032	1.014	1.012	
13	1.679	0.025	1.013	1.011	
14	0.494	0.039	0.973	0.971	

* INDICATED CHANGE =
 (BALANCED RELATIVITY FOR TOP) / (BALANCED MONOLINE (TOP 10) RELATIVITY) -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 loss cost level needs for Basic Group I;
- (2) determine monoline category loss cost level needs for Special Causes of Loss;
- (3) determine indicated changes to the eight property CPP Package Modification Factors (PMFs) 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 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 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:

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

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

SPECIAL CAUSES OF LOSS:

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

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

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

COLUMN (1)
(Cont'd)

- . 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;
- . W_{ij} is the aggregate loss costs for the i th Type of Policy, j th Rating Group or Category;
- . R_{ij} is the experience ratio relativity for the i th Type of Policy, j th Rating Group or Category;
- . m is the number of Types of Policy in the analysis;
- . n is the number of Rating Groups or Categories 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 or Category 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 \$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.

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

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.

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:

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

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

MULTILINE
CONSIDERATIONS
(Cont'd)

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.

Entire State (Maine)

MAINE

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	17,266	128,489	0.000	0.728	0.944
	02 OTHER HABITATIONAL	20,266	107,947	1.071	0.920	1.193
	03 RESTAURANTS & BARS	21,471	90,868	0.828	0.876	1.136
	04 OTHER MERCANTILE RS	77,656	444,390	1.308	0.966	1.253
	06 CHURCHES	588	3,394	0.000	0.730	0.947
	07 SCHOOLS	13,327	64,132	0.030	0.734	0.952
	08 OFFICES AND BANKS	86,854	554,203	1.336	0.972	1.261
	09 REC. FACILITIES	126,738	544,971	1.502	1.004	1.302
	10 HOTELS AND MOTELS	16,546	90,150	0.974	0.903	1.171
	11 HOSPITALS/NURS HOME	34,702	195,398	0.000	0.726	0.942
	13 MOTOR VEHICLE RISKS	72,082	409,518	0.114	0.743	0.964
	14 OTHER NON-MANUF.	45,038	298,827	0.089	0.740	0.960
	15 STORAGE	15,046	109,461	0.000	0.728	0.944
	17 FOOD MANUFACTURING	251	1,327	0.000	0.730	0.947
	18 WOOD MANUFACTURING	8,736	31,722	13.843	3.184	4.130
	21 METAL MANUFACTURING	8,918	47,174	0.000	0.729	0.946
	22 OTHER MANUFACTURING	36,162	185,233	0.000	0.726	0.942
	TOTAL*	601,647	3,307,204	0.992	0.907	1.176
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	507,906	2,501,755	2.565	2.051	2.660
	TOTAL*	507,906	2,501,755	2.565	2.051	2.660
32 MULTILINE APARTMENT	01 APARTMENTS	1,216,804	4,659,524	0.467	0.516	0.669
	02 OTHER HABITATIONAL	664,872	2,897,969	0.943	0.891	1.156
	TOTAL*	1,881,676	7,557,493	0.635	0.648	0.841
33 MULTILINE OFFICE	08 OFFICES AND BANKS	265,932	1,756,779	0.265	0.431	0.559
	TOTAL*	265,932	1,756,779	0.265	0.431	0.559
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	313,970	1,591,422	1.021	0.916	1.188
	04 OTHER MERCANTILE RS	586,041	3,222,405	0.885	0.850	1.102
	08 OFFICES AND BANKS	22,792	120,834	0.486	0.678	0.879
	13 MOTOR VEHICLE RISKS	137,196	495,760	0.262	0.548	0.711
	14 OTHER NON-MANUF.	39,551	164,223	0.024	0.551	0.715
	15 STORAGE	119,525	573,515	0.028	0.436	0.565
	TOTAL*	1,219,075	6,168,159	0.730	0.780	1.011

Entire State (Maine)

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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	301	22,441	0.000	0.605	0.785
	06 CHURCHES	504,180	2,735,740	0.072	0.249	0.323
	07 SCHOOLS	227,112	977,469	0.497	0.611	0.792
	08 OFFICES AND BANKS	129,329	505,303	0.142	0.498	0.646
	09 REC. FACILITIES	115,054	576,791	0.033	0.438	0.568
	11 HOSPITALS/NURS HOME	89,566	323,194	0.252	0.575	0.746
	13 MOTOR VEHICLE RISKS	6,658	25,639	0.739	0.738	0.957
	14 OTHER NON-MANUF.	66,070	403,268	0.095	0.502	0.651
	TOTAL*	1,138,270	5,569,845	0.180	0.412	0.534
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	28,433	147,097	1.035	0.841	1.091
	04 OTHER MERCANTILE RS	94,377	454,339	0.233	0.645	0.837
	08 OFFICES AND BANKS	85,538	452,230	1.959	1.108	1.437
	09 REC. FACILITIES	486,579	2,320,278	0.205	0.475	0.616
	13 MOTOR VEHICLE RISKS	381,840	2,097,316	1.493	1.160	1.505
	14 OTHER NON-MANUF.	99,724	659,385	0.342	0.654	0.848
	15 STORAGE	79,807	489,750	4.603	1.851	2.401
	21 METAL MANUFACTURING	2,399	26,631	0.000	0.676	0.877
	22 OTHER MANUFACTURING	13,164	105,707	0.000	0.657	0.852
	TOTAL*	1,271,861	6,752,733	1.014	0.847	1.098
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	28,047	126,393	0.000	0.652	0.846
	08 OFFICES AND BANKS	4,494	26,939	0.000	0.676	0.877
	13 MOTOR VEHICLE RISKS	0	1,138	0.000	0.683	0.886
	14 OTHER NON-MANUF.	12,197	69,040	1.367	0.891	1.156
	15 STORAGE	3,991	5,541	3.243	1.151	1.493
	17 FOOD MANUFACTURING	186,758	797,224	0.000	0.524	0.680
	18 WOOD MANUFACTURING	136,517	703,233	0.001	0.540	0.700
	21 METAL MANUFACTURING	152,128	750,382	0.337	0.644	0.835
	22 OTHER MANUFACTURING	249,771	907,381	0.029	0.519	0.673
	TOTAL*	773,903	3,387,271	0.114	0.563	0.731
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	301,039	1,648,399	1.114	0.947	1.228
	08 OFFICES AND BANKS	101,107	505,366	0.737	0.780	1.012
	14 OTHER NON-MANUF.	12,180	62,506	0.183	0.697	0.904
	TOTAL*	414,326	2,216,271	0.995	0.899	1.166

Entire State (Maine)

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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
TOTAL ALL TOPS*	01 APARTMENTS	1,234,070	4,788,013	0.460	0.519	0.673
	02 OTHER HABITATIONAL	685,439	3,028,357	0.946	0.892	1.157
	03 RESTAURANTS & BARS	363,874	1,829,387	1.011	0.908	1.177
	04 OTHER MERCANTILE RS	1,087,160	5,895,926	0.899	0.862	1.118
	06 CHURCHES	504,768	2,739,134	0.072	0.249	0.324
	07 SCHOOLS	240,439	1,041,601	0.471	0.618	0.801
	08 OFFICES AND BANKS	696,046	3,921,654	0.658	0.655	0.849
	09 REC. FACILITIES	728,371	3,442,040	0.404	0.561	0.728
	10 HOTELS AND MOTELS	524,452	2,591,905	2.515	2.015	2.613
	11 HOSPITALS/NURS HOME	124,268	518,592	0.182	0.617	0.800
	13 MOTOR VEHICLE RISKS	597,776	3,029,371	1.036	0.965	1.251
	14 OTHER NON-MANUF.	274,760	1,657,249	0.234	0.629	0.816
	15 STORAGE	218,369	1,178,267	1.757	0.986	1.279
	17 FOOD MANUFACTURING	187,009	798,551	0.000	0.525	0.680
	18 WOOD MANUFACTURING	145,253	734,955	0.834	0.699	0.907
	21 METAL MANUFACTURING	163,445	824,187	0.314	0.649	0.842
	22 OTHER MANUFACTURING	299,097	1,198,321	0.024	0.550	0.713
	TOTAL*	8,074,596	39,217,510	0.749	0.771	1.000

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

MAINE

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	142,045	752,581	1.371	1.437
	02 RES. APTS. AND COND	6,110	37,517	0.847	0.888
	03 OFFICES	15,604	114,883	0.503	0.527
	04 MERCANTILE - HIGH	11,822	88,980	0.239	0.251
	05 MERCANTILE - MEDIUM	4,672	41,498	0.000	0.000
	06 MERCANTILE - LOW	5,002	17,787	1.572	1.648
	07 MOTELS AND HOTELS	3,865	17,899	0.528	0.553
	08 INSTITUTIONAL - HIG	16,693	92,199	0.000	0.000
	09 INSTITUTIONAL - LOW	13,196	117,632	0.000	0.000
	10 INDUST-PROC - HIGH	289	9,739	0.000	0.000
	11 INDUST-PROC - LOW	9,315	25,533	0.000	0.000
	12 SERVICE - HIGH	4,949	33,794	0.329	0.345
	13 SERVICE - LOW	9,742	47,104	4.903	5.139
	14 CONTRACTORS	1,337	6,217	1.192	1.249
	TOTAL*	244,641	1,403,363	1.110	1.164
31 MULTILINE MOTEL/HOTEL	01 BUILDINGS	192,433	941,786	0.743	0.779
	07 MOTELS AND HOTELS	113,461	581,821	0.668	0.700
	TOTAL*	305,894	1,523,607	0.715	0.749
32 MULTILINE APARTMENT	01 BUILDINGS	347,225	1,776,039	1.067	1.118
	02 RES. APTS. AND COND	242,671	1,214,696	0.989	1.037
	TOTAL*	589,896	2,990,735	1.035	1.085
33 MULTILINE OFFICE	01 BUILDINGS	103,820	644,920	0.602	0.631
	03 OFFICES	119,362	750,030	1.069	1.121
	08 INSTITUTIONAL - HIG	619	3,532	0.000	0.000
	12 SERVICE - HIGH	0	387	0.000	0.000
	TOTAL*	223,801	1,398,869	0.849	0.890
34 MULTILINE MERCANTILE	01 BUILDINGS	759,767	3,635,171	0.885	0.928
	03 OFFICES	322	1,662	0.000	0.000
	04 MERCANTILE - HIGH	104,717	669,687	1.101	1.154
	05 MERCANTILE - MEDIUM	118,622	712,127	1.166	1.222
	06 MERCANTILE - LOW	34,977	218,452	0.422	0.442
	08 INSTITUTIONAL - HIG	0	1,353	0.000	0.000
	12 SERVICE - HIGH	360	7,294	0.000	0.000
	13 SERVICE - LOW	2,296	12,302	0.000	0.000
	14 CONTRACTORS	8,902	27,664	0.000	0.000
	TOTAL*	1,029,963	5,285,712	0.913	0.957

MAINE

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
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	316,696	1,673,040	1.682	1.763
	03 OFFICES	360	629	0.000	0.000
	08 INSTITUTIONAL - HIG	288,663	1,839,349	0.977	1.024
	09 INSTITUTIONAL - LOW	173,945	874,304	1.033	1.083
	12 SERVICE - HIGH	273	867	0.000	0.000
	13 SERVICE - LOW	62	142	0.000	0.000
	14 CONTRACTORS	450	2,046	0.000	0.000
	TOTAL*	780,449	4,390,377	1.274	1.335
36 MULTILINE SERVICES	01 BUILDINGS	315,346	1,677,496	0.719	0.754
	03 OFFICES	680	2,460	0.000	0.000
	04 MERCANTILE - HIGH	1,400	4,341	0.000	0.000
	05 MERCANTILE - MEDIUM	127	705	0.000	0.000
	06 MERCANTILE - LOW	103	244	0.000	0.000
	08 INSTITUTIONAL - HIG	6,578	34,960	0.000	0.000
	09 INSTITUTIONAL - LOW	9,655	53,859	0.000	0.000
	10 INDUST-PROC - HIGH	374	1,769	0.000	0.000
	12 SERVICE - HIGH	76,479	454,697	1.076	1.128
	13 SERVICE - LOW	77,913	320,509	1.089	1.142
	14 CONTRACTORS	604	3,605	0.000	0.000
	TOTAL*	489,259	2,554,645	0.805	0.844
37 MULTILINE INDUST/PROC	01 BUILDINGS	225,406	1,015,959	0.951	0.997
	04 MERCANTILE - HIGH	0	41	0.000	0.000
	10 INDUST-PROC - HIGH	47,806	259,044	0.074	0.078
	11 INDUST-PROC - LOW	89,952	387,003	1.310	1.373
	13 SERVICE - LOW	47	207	0.000	0.000
	TOTAL*	363,211	1,662,254	0.924	0.969
38 MULTILINE CONTRACTORS	01 BUILDINGS	162,397	807,826	0.678	0.711
	03 OFFICES	971	4,594	0.000	0.000
	06 MERCANTILE - LOW	1,398	7,690	0.000	0.000
	11 INDUST-PROC - LOW	0	179	0.000	0.000
	14 CONTRACTORS	104,762	567,640	0.331	0.347
	TOTAL*	269,528	1,387,929	0.537	0.563

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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
TOTAL ALL TOPS*	01 BUILDINGS	2,565,135	12,924,818	0.985	1.032
	02 RES. APTS. AND COND	248,781	1,252,213	0.986	1.034
	03 OFFICES	137,299	874,258	0.987	1.035
	04 MERCANTILE - HIGH	117,939	763,049	1.002	1.050
	05 MERCANTILE - MEDIUM	123,421	754,330	1.121	1.175
	06 MERCANTILE - LOW	41,480	244,173	0.545	0.571
	07 MOTELS AND HOTELS	117,326	599,720	0.663	0.695
	08 INSTITUTIONAL - HIG	312,553	1,971,393	0.902	0.945
	09 INSTITUTIONAL - LOW	196,796	1,045,795	0.913	0.957
	10 INDUST-PROC - HIGH	48,469	270,552	0.073	0.077
	11 INDUST-PROC - LOW	99,267	412,715	1.187	1.244
	12 SERVICE - HIGH	82,061	497,039	1.023	1.072
	13 SERVICE - LOW	90,060	380,264	1.472	1.543
	14 CONTRACTORS	116,055	607,172	0.313	0.328
	TOTAL*	4,296,642	22,597,491	0.954	1.000

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

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.

MAINE

TABLE 7 - BASIC GROUP II RELATIVITY ANALYSIS

	(1) ACCIDENT YR ENDING 03/31/18	(2) ACCIDENT YRS 2009-2018 NON-HURR.	(3) FORMULA RELATIVITY (2) / 0.539	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELA- TIVITY E	(7) NORMALIZED FORMULA RELA- TIVITY F	(8) INDICATED CHANGE G
	AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	EXPER. RATIO AT CURRENT PMF						
MONOLINE	195,155	0.335	0.622	0.070	0.973	0.973	0.9663	
MULTILINE	2,154,718	0.557	1.033	0.327	1.010	1.010	1.0028	
COVERAGE	2,349,873	0.539	0.999			1.0069 B	0.9998	
MULTILINE TOP								
31 MOTEL/HOTEL	149,576	0.249	0.462	0.033	0.981	0.984	0.9773	+1.1%
32 APARTMENT	237,308	0.567	1.052	0.048	1.002	1.005	0.9981	+3.3%
33 OFFICE	90,993	0.358	0.664	0.025	0.991	0.994	0.9872	+2.2%
34 MERCANTILE	513,865	0.581	1.078	0.103	1.007	1.010	1.0031	+3.8%
35 INSTITUTIONAL	473,514	0.709	1.315	0.093	1.028	1.031	1.0239	+6.0%
36 SERVICES	428,326	0.600	1.113	0.092	1.009	1.012	1.0051	+4.0%
37 INDUST/PROCESS	175,370	0.296	0.549	0.038	0.982	0.985	0.9783	+1.2%
38 CONTRACTORS	85,766	0.617	1.145	0.018	1.002	1.005	0.9981	+3.3%
	2,154,718	0.557 B	1.033		1.007 B	1.010 B	1.0028 B	

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)) * 0.999)

E - (6) = (5) * (1.010/1.007)

F - (7) = (6) / 1.0069

G - (8) = (BALANCED RELATIVITY FOR TOP) / (BALANCED 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.

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.

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TABLE 8

COMMERCIAL I.M. RELATIVITY ANALYSIS

(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>BALANCED</u>	<u>CURRENT</u>	<u>INDICATED</u>	<u>SELECTED</u>
<u>10</u>	<u>RELATIVITY</u>	<u>IPMF</u>	<u>IPMF*</u>	<u>IPMF</u>
10	1.000	0.910	0.910	0.910
3X & 7X	1.000			

CLASSIFICATION

150	0.923
191	1.100
192	0.785
220	0.789
221	0.755
234	1.202
235	1.088
240	0.789
241	0.715
327	0.757
328	0.932
340	0.646
341	0.757
342	0.751
343	0.767
403	0.640
451	0.946
452	0.778
453	0.811
454	0.713
460	0.479
482	0.889
510	0.662
514	0.631
530	0.628
534	0.757

*COLUMN (4) = COLUMN (3) * (TOP 3X & 7X COLUMN (2) / TOP 10 COLUMN (2))

MAINE

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

<u>TYPE OF POLICY</u>	<u>RATING</u>	(1) <u>2016 AGGREGATE</u>	(2) <u>2012 - 2016</u>	(3) <u>FIVE-YEAR</u>	(4) <u>RELATIVITY</u>
<u>MONOLINE 10</u>	<u>GROUP</u>	<u>LOSS COSTS</u>	<u>AGGREGATE LOSS COSTS</u>	<u>EXP RATIO</u>	
	150	311,633	1,898,096	1.151	1.353
	191	5,446,492	15,816,054	1.032	1.213
	192	862,002	2,760,886	0.627	0.737
	220	5,112	87,903	5.716	6.717
	221	1,491	2,853	1.199	1.409
	234	5,224,155	20,144,072	0.600	0.705
	235	8,439,000	24,407,283	0.761	0.894
	240	928,183	3,685,254	0.656	0.771
	241	15,553	114,739	0.053	0.062
	327	18,917	91,546	0.000	0.000
	328	2,319,887	11,908,665	0.792	0.931
	340	40,688	87,993	0.000	0.000
	341	0	0	0.000	0.000
	342	19,188	65,375	0.555	0.652
	343	589	3,417	343.665	578.925
	403	1,600,852	5,771,545	0.345	0.405
	451	3,309,677	12,953,836	0.855	1.005
	452	34,702	137,467	1.628	1.913
	453	45,575	212,456	3.203	3.764
	454	164,836	745,300	0.734	0.863
	460	790,198	3,687,530	0.415	0.488
	482	839,364	2,841,134	0.986	1.159
	510	3,252	39,977	0.020	0.024
	514	446,469	1,612,361	0.339	0.398
	530	504,434	2,697,004	0.489	0.575
	534	0	0	0.000	0.000
	TOTAL#	31,372,249	111,772,746	0.785	0.922

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COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

		(1)	(2)	(3)	(4)
	RATING	2016 AGGREGATE	2012 - 2016	FIVE-YEAR	
<u>TYPE OF POLICY</u>	<u>GROUP</u>	<u>LOSS COSTS</u>	<u>AGGREGATE LOSS COSTS</u>	<u>EXP RATIO</u>	<u>RELATIVITY</u>
MULTILINE ##	150	720,095	3,333,227	0.795	0.934
3X & 7X	191	603,595	2,704,067	0.774	0.910
	192	202,803	783,492	0.826	0.971
	220	6,439	28,512	1.526	1.793
	221	5,606	27,010	0.258	0.303
	234	12,669,443	52,530,286	1.162	1.365
	235	478,171	2,380,353	2.879	3.383
	240	11,651	60,061	1.983	2.330
	241	5,028	15,371	0.019	0.022
	327	2,942	18,862	0.000	0.000
	328	396	2,751	168.726	198.268
	340	32,828	132,609	0.016	0.019
	341	0	0	0.000	0.000
	342	6,082	30,546	0.000	0.000
	343	2,369	7,996	0.000	0.000
	403	479,869	2,417,275	0.739	0.868
	451	95,342	438,635	0.360	0.423
	452	38,096	206,651	0.535	0.629
	453	34,375	104,958	0.147	0.173
	454	228,162	984,183	0.274	0.322
	460	3,613,811	15,118,089	0.318	0.374
	482	127,496	760,961	0.693	0.814
	510	23,290	121,842	0.000	0.000
	514	63,169	300,866	0.073	0.086
	530	1,129,574	4,779,992	0.414	0.486
	534	0	0	0.000	0.000
	TOTAL#	20,580,632	87,288,595	0.952	1.119

REFLECTS CURRENT IPMF OF 0.910.

MAINE

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS
TABLE 9 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

<u>TYPE OF POLICY</u>	<u>RATING</u>	(1)	(2)	(3)	(4)
<u>TOTAL ALL TOPS#</u>	<u>GROUP</u>	<u>2016 AGGREGATE LOSS COSTS</u>	<u>2012 - 2016 AGGREGATE LOSS COSTS</u>	<u>FIVE-YEAR EXP RATIO</u>	<u>RELATIVITY</u>
	150	1,031,728	5,231,323	0.903	1.061
	191	6,050,087	18,520,121	1.006	1.182
	192	1,064,805	3,544,378	0.665	0.781
	220	11,551	116,415	3.380	3.972
	221	7,097	29,863	0.456	0.536
	234	17,893,598	72,674,358	0.998	1.173
	235	8,917,171	26,787,636	0.875	1.028
	240	939,834	3,745,315	0.672	0.790
	241	20,581	130,110	0.045	0.053
	327	21,859	110,408	0.000	0.000
	328	2,320,283	11,911,416	0.821	0.965
	340	73,516	220,602	0.007	0.008
	341	0	0	0.000	0.000
	342	25,270	95,921	0.421	0.495
	343	2,958	11,413	267.552	314.397
	403	2,080,721	8,188,820	0.436	0.512
	451	3,405,019	13,392,471	0.841	0.988
	452	72,798	344,118	1.056	1.241
	453	79,950	317,414	1.889	2.220
	454	392,998	1,729,483	0.467	0.549
	460	4,404,009	18,805,619	0.335	0.394
	482	966,860	3,602,095	0.947	1.113
	510	26,542	161,819	0.002	0.002
	514	509,638	1,913,227	0.306	0.360
	530	1,634,008	7,476,996	0.437	0.514
	534	0	0	0.000	0.000
	TOTAL#	51,952,881	199,061,341	0.851	1.000

TOTAL IN COLUMN (3) IS AN AVERAGE USING COLUMN (1) AS WEIGHTS.

EXPLANATORY NOTES TO TABLES 8 AND 9

COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS

EXPERIENCE BASE

The Commercial Inland Marine IPMF review presented in the attached exhibits is based on a review of the latest available five years of monoline and multiline experience through accident year 2016 for all companies reporting data to Insurance Services Office under the Inland Marine Module of the Commercial Statistical Plan (CSP) and the Intermediate Level of the Commercial Minimum Statistical Plan (CMSP).

ADJUSTMENT OF DATA

Aggregate loss costs for each year in the review period have been adjusted to the levels which would have been earned had the current loss costs applied throughout the experience period. Reported premiums are adjusted to current level on an individual policy basis by applying a factor equal to all loss cost level changes that have been implemented subsequent to the policy being written. These adjusted premiums are then converted to a loss cost at current level. In order to eliminate the impact of company deviations from the manual level and individual risk modifications which were in effect at the time the policy was written, aggregate loss costs are further adjusted based on reported Rate Modification and Rate Departure Factors/Loss Cost Multipliers. Multiline aggregate loss costs are further adjusted to the level of the current Implicit Package Modification Factor (IPMF). Incurred losses are loaded for all loss adjustment expenses by applying a factor of 1.105.

RELATIVITY ANALYSIS

For Inland Marine coverage, a multistate IPMF level is determined via a two-way relativity analysis similar to the analysis used in Basic Group I. The experience for all reviewed classes is used to form class group relativities. These relativities for monoline and multiline (all programs combined) are determined through an iterative procedure. The ratio of the multiline relativity to the monoline relativity is multiplied by the current IPMF to yield the indicated IPMF. The indicated IPMF is subject to a minimum value of 0.500 and a maximum value of 1.500. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the premiums for that Type of Policy (i.e., TOP 10 versus TOP 3X) are adjusted to the capped IPMF level, and the entire relativity review is performed again to take this into account.

TABLE 10
MAINE
OWNERS, LANDLORDS AND TENANTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	0.818	0.104	0.979	0.984	
31	3.089	0.090	1.107	1.112	+13.0%
32	1.771	0.080	1.047	1.052	+6.9%
33	0.650	0.089	0.962	0.967	-1.7%
34	0.721	0.126	0.960	0.964	-2.0%
35	0.790	0.096	0.978	0.982	-0.2%
36	0.703	0.076	0.974	0.978	-0.6%
CLASS GROUP					
01	1.699	0.064	1.035	1.043	
02	0.998	0.084	1.000	1.008	
03	1.045	0.059	1.003	1.011	
04	3.352	0.018	1.022	1.030	
05	0.188	0.021	0.965	0.973	
06	1.579	0.036	1.017	1.025	
07	1.582	0.078	1.036	1.045	
08	4.125	0.034	1.049	1.058	
09	0.329	0.100	0.895	0.902	
10	1.208	0.086	1.016	1.025	
11	0.921	0.078	0.994	1.002	
12	1.238	0.124	1.027	1.035	
13	3.125	0.030	1.035	1.043	
16	0.000	0.000	1.000	1.008	

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

TABLE 11
MAINE
MANUFACTURERS AND CONTRACTORS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	0.800	0.106	0.977	0.970	
33	0.981	0.012	1.000	0.993	+2.4%
34	0.717	0.053	0.983	0.976	+0.6%
35	1.817	0.023	1.014	1.007	+3.8%
36	1.566	0.105	1.048	1.041	+7.3%
37	1.236	0.044	1.009	1.002	+3.3%
38	1.119	0.165	1.019	1.011	+4.2%
CLASS GROUP					
30	1.199	0.069	1.013	1.013	
31	0.813	0.100	0.980	0.980	
32	1.083	0.154	1.012	1.013	
33	0.487	0.043	0.970	0.970	
34	1.663	0.088	1.046	1.046	
35	0.157	0.023	0.958	0.959	
36	0.275	0.028	0.964	0.965	
37	0.223	0.024	0.965	0.965	
38	0.885	0.069	0.992	0.992	

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

TABLE 12
MAINE
OWNERS, LANDLORDS AND TENANTS
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	01 FOOD&BEV. (RETAIL)	\$2,253	\$17,463	0.000	0.000	0	1.026
	02 RESTAURANTS	37,063	155,732	0.269	0.262	7	0.992
	03 STORES	26,865	114,420	0.496	0.482	8	0.995
	04 VENDING & RENTAL	1,436	12,065	0.854	0.829	2	1.014
	05 FOOD & BEV. DIST.	44,646	118,545	0.076	0.074	1	0.958
	06 NON-FOOD&BEV.DIST	44,069	231,219	1.175	1.141	10	1.008
	07 CLUBS, AMSMT&SPRTS	70,110	425,527	2.310	2.244	35	1.028
	08 HEALTH CARE FACIL	3,005	11,135	0.000	0.000	0	1.041
	09 HOTELS AND MOTELS	138,147	535,366	0.338	0.329	32	0.888
	10 SCHLS & CHURCHES	129,244	282,558	0.618	0.600	12	1.008
	11 APARTMENTS	63,342	246,305	0.769	0.747	12	0.986
	12 BUILDINGS&OFFICES	215,035	984,239	1.195	1.160	69	1.019
	13 MISC. PREMISES	7,079	38,222	2.693	2.616	7	1.027
	TOTAL *	\$782,294	\$3,172,796	0.886		195	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$645,795	\$2,787,130	1.046	1.016	147	1.003
	TOTAL *	\$645,795	\$2,787,130	1.046		147	
32 MULT APARTMENT	11 APARTMENTS	\$267,695	\$1,187,898	1.681	1.633	100	1.054
	12 BUILDINGS&OFFICES	69,706	272,721	2.251	2.186	18	1.089
	TOTAL *	\$337,401	\$1,460,619	1.799		118	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$622,539	\$2,936,805	0.829	0.805	143	1.001
	13 MISC. PREMISES	77	1,032	0.000	0.000	0	1.009
	TOTAL *	\$622,616	\$2,937,837	0.829		143	
34 MULT MERCANTILE	01 FOOD&BEV. (RETAIL)	\$181,427	\$786,640	1.279	1.243	74	1.006
	02 RESTAURANTS	493,466	2,263,757	0.784	0.761	121	0.972
	03 STORES	112,337	530,544	0.528	0.512	45	0.975
	04 VENDING & RENTAL	628	3,183	0.000	0.000	0	0.994
	05 FOOD & BEV. DIST.	64,743	279,158	0.196	0.190	7	0.939
	06 NON-FOOD&BEV.DIST	42,983	245,459	1.331	1.293	14	0.988
	12 BUILDINGS&OFFICES	107,857	549,974	0.523	0.508	26	0.998
	13 MISC. PREMISES	813	2,856	48.277	46.890	1	1.006
	TOTAL *	\$1,004,254	\$4,661,571	0.840		288	

TABLE 12
MAINE
OWNERS, LANDLORDS AND TENANTS
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.
35 MULT INSTITUT.	07 CLUBS, AMSMT&SPRTS	\$106,346	\$507,872	0.684	0.665	17	1.026
	08 HEALTH CARE FACIL	50,644	242,633	3.566	3.464	22	1.039
	10 SCHLS & CHURCHES	293,846	1,448,796	1.190	1.156	124	1.007
	12 BUILDINGS&OFFICES	8,126	47,317	0.142	0.138	4	1.017
	13 MISC. PREMISES	49	245	0.000	0.000	0	1.025
	16 GOVT SUBDIVISIONS	1,745	8,988	0.000	0.000	0	0.990
	TOTAL *	\$460,756	\$2,255,851	1.311		167	
36 MULT SERVICES	03 STORES	\$33,458	\$142,523	1.898	1.843	11	0.989
	04 VENDING & RENTAL	7,634	45,851	2.999	2.913	4	1.008
	07 CLUBS, AMSMT&SPRTS	215,177	905,481	1.124	1.092	60	1.022
	08 HEALTH CARE FACIL	51	500	0.000	0.000	0	1.035
	09 HOTELS AND MOTELS	39,828	223,099	0.025	0.024	1	0.882
	10 SCHLS & CHURCHES	10,470	63,671	0.000	0.000	0	1.002
	12 BUILDINGS&OFFICES	48,244	235,517	1.250	1.214	20	1.013
	13 MISC. PREMISES	33,293	157,483	1.133	1.101	9	1.020
	TOTAL *	\$388,155	\$1,774,125	1.101		105	
TOTAL ALL TOP	01 FOOD&BEV. (RETAIL)	\$183,680	\$804,103	1.264		74	
	02 RESTAURANTS	530,529	2,419,489	0.748		128	
	03 STORES	172,660	787,487	0.788		64	
	04 VENDING & RENTAL	9,698	61,099	2.487		6	
	05 FOOD & BEV. DIST.	109,389	397,703	0.147		8	
	06 NON-FOOD&BEV.DIST	87,052	476,678	1.252		24	
	07 CLUBS, AMSMT&SPRTS	391,633	1,838,880	1.217		112	
	08 HEALTH CARE FACIL	53,700	254,268	3.364		22	
	09 HOTELS AND MOTELS	823,770	3,545,595	0.878		180	
	10 SCHLS & CHURCHES	433,560	1,795,025	0.991		136	
	11 APARTMENTS	331,037	1,434,203	1.506		112	
	12 BUILDINGS&OFFICES	1,071,507	5,026,573	0.978		280	
	13 MISC. PREMISES	41,311	199,838	2.325		17	
	16 GOVT SUBDIVISIONS	1,745	8,988	0.000		0	
	TOTAL *	\$4,241,271	\$19,049,929	1.030		1,163	

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

TABLE 13
MAINE
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	\$160,038	\$703,086	0.594	0.582	7	0.982
	31 LIGHT CONTRACTING	47,562	258,567	0.842	0.825	27	0.950
	32 MEDIUM CONTRCTING	481,063	2,484,475	1.065	1.044	139	0.982
	33 HEAVY CONTRACTING	115,651	732,925	0.086	0.084	5	0.941
	34 DEALER OR DISTRIB	43,326	142,844	0.860	0.842	8	1.015
	35 LGT. MANUFACTURER	17,442	74,511	0.071	0.070	4	0.930
	36 MED. MANUFACTURER	39,578	294,644	0.005	0.005	1	0.936
	37 HVY. MANUFACTURER	30,945	160,702	0.769	0.753	3	0.936
	38 MISC. OPERATION	59,721	405,045	0.987	0.967	9	0.962
	TOTAL *	\$995,326	\$5,256,799	0.783		203	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$4,812	\$30,257	0.000	0.000	0	0.973
	32 MEDIUM CONTRCTING	935	3,456	0.000	0.000	0	1.005
	33 HEAVY CONTRACTING	10,116	33,135	0.000	0.000	0	0.963
	38 MISC. OPERATION	6,270	50,146	2.458	2.408	3	0.985
	TOTAL *	\$22,133	\$116,994	0.696		3	
34 MULT MERCANTILE	30 SERVICE	\$6,986	\$34,852	0.691	0.677	1	0.988
	32 MEDIUM CONTRCTING	14,135	69,656	0.000	0.000	0	0.988
	34 DEALER OR DISTRIB	252,599	1,118,687	1.270	1.244	39	1.021
	38 MISC. OPERATION	19,159	57,244	0.606	0.593	12	0.968
	TOTAL *	\$292,879	\$1,280,439	1.152		52	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$1,354	\$12,032	0.000	0.000	0	0.986
	32 MEDIUM CONTRCTING	2,632	71,460	2.784	2.727	10	1.020
	TOTAL *	\$3,986	\$83,492	1.838		10	
36 MULT SERVICES	30 SERVICE	\$28,373	\$102,419	4.955	4.853	34	1.054
	31 LIGHT CONTRACTING	24,077	177,041	0.937	0.918	13	1.020
	32 MEDIUM CONTRCTING	10,059	51,659	0.201	0.197	3	1.054
	33 HEAVY CONTRACTING	3,796	26,245	0.000	0.000	0	1.010
	34 DEALER OR DISTRIB	196,092	719,240	2.748	2.692	93	1.089
	36 MED. MANUFACTURER	1,660	10,770	3.884	3.805	1	1.004
	38 MISC. OPERATION	95,307	462,112	0.553	0.541	57	1.033
	TOTAL *	\$359,364	\$1,549,486	2.124		201	

TABLE 13
MAINE
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	\$152	\$763	0.000	0.000	0	0.982
	32 MEDIUM CONTRCTING	29,256	133,826	0.203	0.198	3	1.015
	33 HEAVY CONTRACTING	7,665	51,126	0.000	0.000	0	0.972
	34 DEALER OR DISTRIB	4,336	18,179	0.000	0.000	0	1.049
	35 LGT. MANUFACTURER	46,121	175,126	0.219	0.215	6	0.961
	36 MED. MANUFACTURER	160,585	638,282	0.365	0.358	13	0.967
	37 HVY. MANUFACTURER	133,051	481,159	0.145	0.142	8	0.967
	38 MISC. OPERATION	10,236	47,772	7.195	7.048	5	0.994
	TOTAL *	\$391,402	\$1,546,233	0.428		35	
38 MULT CONTRACTORS	30 SERVICE	\$153,591	\$631,307	1.219	1.194	45	1.025
	31 LIGHT CONTRACTING	705,743	2,870,446	0.937	0.918	141	0.991
	32 MEDIUM CONTRCTING	806,662	3,405,099	1.203	1.178	276	1.024
	33 HEAVY CONTRACTING	266,790	1,116,931	0.738	0.723	29	0.981
	38 MISC. OPERATION	4,719	6,286	0.000	0.000	0	1.003
	TOTAL *	\$1,937,505	\$8,030,069	1.041		491	
TOTAL ALL TOP	30 SERVICE	\$348,988	\$1,471,664	1.226		87	
	31 LIGHT CONTRACTING	783,700	3,349,106	0.924		181	
	32 MEDIUM CONTRCTING	1,344,742	6,219,631	1.114		431	
	33 HEAVY CONTRACTING	404,018	1,960,362	0.512		34	
	34 DEALER OR DISTRIB	496,353	1,998,950	1.807		140	
	35 LGT. MANUFACTURER	63,563	249,637	0.179		10	
	36 MED. MANUFACTURER	201,823	943,696	0.324		15	
	37 HVY. MANUFACTURER	163,996	641,861	0.263		11	
	38 MISC. OPERATION	195,412	1,028,605	1.086		86	
	TOTAL *	\$4,002,595	\$17,863,512	1.021		995	

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

TABLE 14
MAINE
PRODUCTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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: 0.989
 TOP 36: 0.984
 TOP 37: 1.015

TABLE 15
MULTISTATE
PRODUCTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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
MAINE
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 16C
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
	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
Maine	0.602	0.179	0.913	0.913
	0.804	0.575	0.882	0.882

* Sorted by balanced relative change.

TABLE 17
 MAINE
 LOCAL PRODUCTS/COMPLETED OPERATIONS
 BASIC LIMIT RELATIVE CHANGE ANALYSIS

 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	\$739	\$3,551	0.000	0.000	0	0.843
	02 RET.STRS-NTFD/DRG	4,174	14,007	1.899	1.752	2	0.899
	11 COMP. OPS. (LOW)	8,773	63,719	0.000	0.000	0	0.912
	12 COMP. OPS. (MED)	214,494	1,395,624	0.190	0.175	15	0.897
	13 COMP. OPS. (HGH)	28,208	175,203	1.018	0.939	1	0.828
	TOTAL *	\$256,388	\$1,652,104	0.302		18	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$19,802	\$92,923	1.318	1.216	17	0.844
	02 RET.STRS-NTFD/DRG	15,847	71,729	0.296	0.273	5	0.900
	12 COMP. OPS. (MED)	3,852	19,266	0.000	0.000	0	0.898
	TOTAL *	\$39,501	\$183,918	0.779		22	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$1,155	\$11,759	9.392	8.665	3	0.856
	02 RET.STRS-NTFD/DRG	65,634	211,732	0.876	0.808	15	0.914
	11 COMP. OPS. (LOW)	7,834	31,918	0.469	0.433	1	0.927
	12 COMP. OPS. (MED)	17,771	126,865	0.515	0.475	9	0.912
	13 COMP. OPS. (HGH)	15,508	66,746	0.460	0.424	1	0.841
	TOTAL *	\$107,902	\$449,020	0.818		29	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	\$0	\$13	0.000	0.000	0	0.859
	11 COMP. OPS. (LOW)	134	640	0.000	0.000	0	0.930
	12 COMP. OPS. (MED)	20,304	87,751	0.000	0.000	0	0.915
	TOTAL *	\$20,438	\$88,404	0.000		0	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$18,782	\$130,161	0.961	0.886	4	0.956
	12 COMP. OPS. (MED)	1,054,120	4,688,927	0.708	0.653	102	0.941
	13 COMP. OPS. (HGH)	51,994	212,853	1.243	1.147	3	0.868
	TOTAL *	\$1,124,896	\$5,031,941	0.737		109	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$21,696	\$108,246	1.703		20	
	02 RET.STRS-NTFD/DRG	85,655	297,468	0.819		22	
	11 COMP. OPS. (LOW)	35,523	226,438	0.611		5	
	12 COMP. OPS. (MED)	1,310,541	6,318,433	0.607		126	
	13 COMP. OPS. (HGH)	95,710	454,802	1.050		5	
	TOTAL *	\$1,549,125	\$7,405,387	0.662		178	

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

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

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 relativities will serve to derive the relationship of the various classifications 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:

Owners, Landlords and Tenants -	type of policy and class group
Manufacturers and Contractors -	type of policy 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:

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

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
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
RELATIVITY ANALYSIS - TABLES 10 THROUGH 18.

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 into the second formula to get a class group relativity. The resultant class group relativities then produce a new set of type of policy relativities. 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

$$= \sqrt{P/15,000} \text{ for type of policy and class group, and } Z = \sqrt{P/5,500} \text{ for}$$

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, state or type of policy credibility;

R is the class group, 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, the class group and state relativities which result from the aforementioned procedures are then used to generate indicated monoline classification loss cost changes. The multiline relativities, the class group and state relativities which result from the aforementioned procedures are then 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.
