

RULES – INFORMATION

JANUARY 2, 2019

COMMERCIAL MULTIPLE LINE

LI-ML-2019-001

WYOMING COMMERCIAL PACKAGE POLICY PACKAGE MODIFICATION FACTOR ANALYSIS FURNISHED FOR INFORMATION; EXCEL WORKBOOK NEWLY INCLUDED

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-2018-044](#), 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-2018-044](#) (10/30/2018) 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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WYOMING

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%	+1.0%	+0.4%
Apartment	0.0	0.0	0.0
Office	+2.1	-2.1	-0.7
Mercantile	0.0	0.0	0.0
Institutional	+5.4	-3.2	+2.5
Services	+2.1	+2.2	+2.1
Indust./Proc.	+2.0	+1.2	+1.4
Contractors	<u>0.0</u>	<u>+1.0</u>	<u>+0.9</u>
Statewide	+1.8%	+0.5%	+1.1%

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 09/30/17.
 - Basic Group II: ten fiscal accident years ending 09/30/17.
 - Special Causes of Loss: five fiscal accident years ending 09/30/17.
 - 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 06/30/17.
 - Manufacturers and Contractors: five fiscal accident years ending 06/30/17.
 - Products: three calendar accident years ending 12/31/16.
 - Local Products and Completed Operations: three calendar accident years ending 12/31/16.
-

PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-17-RLA1	ML-10-RLA1	ML-08-RLA1
<u>Dates</u>			
Implemented	06/01/18	11/01/10	10/01/08
<u>Changes</u>			
Indicated	+1.1%	+0.5%	+1.6%
Filed	+1.2%	+0.5%	+1.5%
Implemented	+1.2%	+0.5%	+1.5%

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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. Liberty Mutual Insurance Company
 2. Travelers Indemnity Company
 3. Tokio Marine Companies
 4. American Alternative Insurance Corporation
 5. American International Group
 6. AMCO (Allied Group)
 7. Insurance Company of North America
 8. Acuity, A Mutual Insurance Company
 9. Zurich American Insurance Company
 10. Continental Casualty 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). 53.8%.

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%	0.99	1.00	1.0%	0.4%
APARTMENT (32)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
OFFICE (33)	0.94	0.96	2.1%	0.96	0.94	-2.1%	-0.7%
MERCANTILE (34)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
INSTITUTION (35)	0.74	0.78	5.4%	0.93	0.90	-3.2%	2.5%
SERVICES (36)	0.95	0.97	2.1%	0.92	0.94	2.2%	2.1%
IND/PROC (37)	0.98	1.00	2.0%	0.85	0.86	1.2%	1.4%
CONTRACTORS (38)	1.00	1.00	0.0%	0.97	0.98	1.0%	0.9%
STATEWIDE			1.8%			0.5%	1.1%

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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	397,590	0.932	-1.5%	0.918	0.912
BASIC GRP II	316,780	1.103	3.9	1.146	1.139
SP CAUSE/LOSS	180,872	1.002	-0.4	0.998	0.992
*CRIME	1,955	0.904	0.0	0.904	0.904
*INL. MAR.	7,102	0.910	0.0	0.910	0.910
*FIDELITY	3,321	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>907,620</u>	<u>1.00</u>	<u>0.6%</u>	<u>1.006</u>	<u>1.00</u>
LIABILITY-					
OL&T	711,295	0.989	5.3%	1.041	1.000
<u>TOTAL</u>	<u>711,295</u>	<u>0.99</u>	<u>5.2%</u>	<u>1.041</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,618,915		2.6%		

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	189,112	0.742	-1.5%	0.731	0.693
BASIC GRP II	557,135	1.184	9.8	1.300	1.232
SP CAUSE/LOSS	268,902	0.949	-0.9	0.940	0.891
*CRIME	227	0.904	0.0	0.904	0.904
*INL. MAR.	0	0.910	0.0	0.910	0.910
*FIDELITY	1,651	1.000	0.0	1.000	1.000
<u>TOTAL</u>	<u>1,017,027</u>	<u>1.00</u>	<u>5.5%</u>	<u>1.055</u>	<u>1.00</u>
LIABILITY-					
OL&T	265,901	1.000	3.0%	1.030	1.000
<u>TOTAL</u>	<u>265,901</u>	<u>1.00</u>	<u>3.0%</u>	<u>1.030</u>	<u>1.00</u>
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,282,928		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)

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	54,968	1.020	-1.2%	1.008	1.027
BASIC GRP II	114,827	0.878	2.2	0.897	0.915
SP CAUSE/LOSS	76,509	1.003	-2.8	0.975	0.994
*CRIME	151	0.904	0.0	0.904	0.904
*INL. MAR.	547	0.910	0.0	0.910	0.910
*FIDELITY	640	1.000	0.0	1.000	1.000
TOTAL	247,642	0.94	0.3%	0.943	0.96
LIABILITY-					
OL&T	472,787	0.981	-3.4%	0.948	0.959
M&C	30,494	0.728	0.2	0.729	0.738
TOTAL	503,281	0.96	-3.1%	0.930	0.94
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	750,923		-2.0%		
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	524,433	0.964	-1.7%	0.948	0.941
BASIC GRP II	690,494	1.079	2.9	1.110	1.103
SP CAUSE/LOSS	386,498	0.939	0.0	0.939	0.933
*CRIME	7,722	0.904	0.0	0.904	0.904
*INL. MAR.	57,741	0.910	0.0	0.910	0.910
*FIDELITY	10,988	1.000	0.0	1.000	1.000
TOTAL	1,677,876	1.00	0.6%	1.006	1.00
LIABILITY-					
OL&T	958,628	1.063	3.1%	1.096	1.069
M&C	212,931	0.944	-5.4	0.893	0.871
LOCAL PRODUCT	68,513	0.872	2.5	0.894	0.871
*MULTI PRODUCT	136,724	0.832	3.7	0.862	0.862
TOTAL	1,376,796	1.00	2.3%	1.023	1.00
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	3,054,672		1.4%		

* 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)

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	380,257	0.957	-1.2%	0.946	0.964
BASIC GRP II	922,205	0.754	5.6	0.796	0.812
SP CAUSE/LOSS	389,018	0.578	-0.3	0.576	0.587
*CRIME	5,312	0.904	0.0	0.904	0.904
*INL. MAR.	9,763	0.910	0.0	0.910	0.910
*FIDELITY	34,099	1.000	0.0	1.000	1.000
TOTAL	1,740,654	0.74	3.0%	0.762	0.78
LIABILITY-					
OL&T	814,472	0.911	-5.1%	0.865	0.875
M&C	82,803	1.192	-1.0	1.180	1.194
TOTAL	897,275	0.93	-4.6%	0.887	0.90
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,637,929		0.4%		

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	514,113	1.020	-1.0%	1.010	1.029
BASIC GRP II	564,010	0.922	2.2	0.942	0.960
SP CAUSE/LOSS	321,656	0.884	-0.1	0.883	0.900
*CRIME	2,071	0.904	0.0	0.904	0.904
*INL. MAR.	6,687	0.910	0.0	0.910	0.910
*FIDELITY	22,949	1.000	0.0	1.000	1.000
TOTAL	1,431,486	0.95	0.1%	0.951	0.97
LIABILITY-					
OL&T	304,319	0.838	2.1%	0.856	0.866
M&C	387,192	1.020	4.0	1.061	1.073
LOCAL PRODUCT	64,666	0.710	0.5	0.714	0.722
*MULTI PRODUCT	85,404	0.899	1.7	0.914	0.914
TOTAL	841,581	0.92	1.3%	0.932	0.94
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	2,273,067		0.5%		

* 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	112,759	0.951	-1.7%	0.935	0.953
BASIC GRP II	132,480	1.034	1.9	1.054	1.074
SP CAUSE/LOSS	77,194	0.937	-1.5	0.923	0.941
*CRIME	159	0.904	0.0	0.904	0.904
*INL. MAR.	243	0.910	0.0	0.910	0.910
*FIDELITY	803	1.000	0.0	1.000	1.000
TOTAL	323,638	0.98	-0.2%	0.978	1.00
LIABILITY-					
M&C	701,131	0.887	0.9	0.895	0.906
LOCAL PRODUCT	63,253	0.556	-1.5	0.548	0.554
*MULTI PRODUCT	84,611	0.884	-2.8	0.860	0.860
TOTAL	848,995	0.85	0.2%	0.852	0.86
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	1,172,633		0.1%		
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	124,281	1.007	-1.1%	0.996	0.997
BASIC GRP II	195,761	1.048	1.0	1.058	1.059
SP CAUSE/LOSS	118,024	0.926	-1.1	0.916	0.916
*CRIME	61	0.904	0.0	0.904	0.904
*INL. MAR.	79	0.910	0.0	0.910	0.910
*FIDELITY	3,377	1.000	0.0	1.000	1.000
TOTAL	441,583	1.00	-0.1%	0.999	1.00
LIABILITY-					
M&C	1,911,481	1.123	1.3	1.138	1.151
LOCAL PRODUCT	988,076	0.756	-1.4	0.745	0.754
TOTAL	2,899,557	0.97	-0.3%	0.967	0.98
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	3,341,140		-0.3%		

* 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	2,297,513	0.948	-1.4%	0.935	0.937
BASIC GRP II	3,493,692	0.950	4.5	0.993	0.992
SP CAUSE/LOSS	1,818,673	0.827	-0.5	0.823	0.823
*CRIME	17,658	0.904	0.0	0.904	0.904
*INL. MAR.	82,162	0.910	0.0	0.910	0.910
*FIDELITY	77,828	1.000	0.0	1.000	1.000
TOTAL	7,787,526	0.915	1.8%	0.931	0.931
LIABILITY-					
OL&T	3,527,402	0.973	0.7%	0.979	0.967
M&C	3,326,032	1.036	1.0	1.047	1.057
LOCAL PRODUCT	1,184,508	0.745	-1.1	0.737	0.744
*MULTI PRODUCT	306,739	0.864	1.3	0.875	0.875
TOTAL	8,344,681	0.951	0.5%	0.956	0.956
-----	-----	-----	-----	-----	-----
PROP. & LIAB. TOTAL	16,132,207		1.1%		

* 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)	0.99	1.022	1.00
APARTMENT (32)	1.00	1.050	1.00
OFFICE (33)	0.96	0.934	0.95
MERCANTILE (34)	1.00	1.014	1.00
INSTITUTION (35)	0.80	0.799	0.81
SERVICES (36)	0.93	0.944	0.96
IND/PROC (37)	0.88	0.883	0.89
CONTRACTORS (38)	0.97	0.971	0.98

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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WYOMING

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	1.489	0.028	1.011	1.011	
31	0.822	0.019	0.996	0.996	-1.5%
32	0.722	0.011	0.996	0.996	-1.5%
33	0.679	0.003	0.999	0.999	-1.2%
34	0.812	0.028	0.994	0.994	-1.7%
35	0.964	0.020	0.999	0.999	-1.2%
36	1.054	0.026	1.001	1.001	-1.0%
37	0.505	0.008	0.995	0.994	-1.7%
38	1.097	0.006	1.001	1.000	-1.1%

RATING
GROUP

01	0.903	0.020	0.998	1.001
02	1.192	0.011	1.002	1.005
03	0.793	0.024	0.994	0.998
04	0.887	0.072	0.991	0.995
06	0.794	0.013	0.997	1.000
07	0.713	0.028	0.991	0.994
08	0.887	0.029	0.997	1.000
09	1.002	0.024	1.000	1.003
10	0.875	0.059	0.992	0.995
13	1.373	0.031	1.010	1.013
14	0.936	0.019	0.999	1.002
15	1.046	0.014	1.001	1.004
21	1.519	0.011	1.005	1.008
22	2.740	0.014	1.014	1.017

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

WYOMING

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	1.097	0.059	1.005	1.004	
31	1.065	0.021	1.001	1.000	-0.4%
32	0.921	0.037	0.997	0.995	-0.9%
33	0.154	0.012	0.978	0.976	-2.8%
34	1.133	0.046	1.006	1.004	0.0%
35	1.061	0.051	1.003	1.001	-0.3%
36	1.105	0.043	1.004	1.003	-0.1%
37	0.419	0.011	0.990	0.989	-1.5%
38	0.703	0.015	0.995	0.993	-1.1%
CATEGORY					
01	1.132	0.374	1.047	1.015	
02	0.551	0.028	0.983	0.953	
03	0.340	0.012	0.987	0.956	
04	0.432	0.023	0.981	0.950	
05	0.930	0.013	0.999	0.968	
06	0.439	0.007	0.994	0.963	
07	1.006	0.022	1.000	0.969	
08	1.124	0.017	1.002	0.971	
09	0.230	0.018	0.974	0.943	
10	0.000	0.003	1.000	0.969	
11	0.462	0.010	0.992	0.961	
12	0.477	0.030	0.978	0.948	
13	0.177	0.015	0.974	0.944	
14	1.259	0.018	1.004	0.973	

* 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 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 (Wyoming)

WYOMING
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
<hr/>						
10 MONOLINE	01 APARTMENTS	30,506	128,847	0.293	1.316	1.304
	02 OTHER HABITATIONAL	12,264	70,093	2.597	1.901	1.884
	03 RESTAURANTS & BARS	13,894	126,882	0.595	1.396	1.384
	04 OTHER MERCANTILE RS	130,872	682,579	0.639	1.246	1.235
	06 CHURCHES	440	1,214	0.000	1.319	1.307
	07 SCHOOLS	2,378	38,298	0.000	1.295	1.283
	08 OFFICES AND BANKS	54,518	215,632	0.113	1.222	1.211
	09 REC. FACILITIES	31,050	217,542	1.871	1.736	1.721
	10 HOTELS AND MOTELS	110,284	547,373	0.699	1.302	1.290
	13 MOTOR VEHICLE RISKS	59,004	253,549	3.458	2.221	2.201
	14 OTHER NON-MANUF.	46,032	289,734	0.425	1.284	1.273
	15 STORAGE	22,491	106,168	3.682	2.189	2.169
	21 METAL MANUFACTURING	18,153	89,887	0.033	1.270	1.259
	22 OTHER MANUFACTURING	19,543	156,456	12.612	4.656	4.614
	TOTAL*	551,429	2,924,254	1.501	1.572	1.558
31 MULTILINE	10 HOTELS AND MOTELS	397,590	1,962,141	0.701	0.719	0.713
MOTEL/HOTEL	TOTAL*	397,590	1,962,141	0.701	0.719	0.713
32 MULTILINE	01 APARTMENTS	114,259	688,843	0.363	0.655	0.649
APARTMENT	02 OTHER HABITATIONAL	74,853	375,326	1.420	0.852	0.844
	TOTAL*	189,112	1,064,169	0.781	0.733	0.726
33 MULTILINE	08 OFFICES AND BANKS	54,968	348,192	0.061	0.602	0.597
OFFICE	TOTAL*	54,968	348,192	0.061	0.602	0.597
34 MULTILINE	03 RESTAURANTS & BARS	112,054	787,657	0.226	0.628	0.622
MERCANTILE	04 OTHER MERCANTILE RS	301,283	1,553,927	0.806	0.741	0.734
	08 OFFICES AND BANKS	10,811	52,951	0.000	0.595	0.590
	13 MOTOR VEHICLE RISKS	40,955	140,303	0.070	0.606	0.601
	14 OTHER NON-MANUF.	8,666	58,528	0.192	0.629	0.623
	15 STORAGE	50,664	250,140	0.461	0.676	0.670
	TOTAL*	524,433	2,843,506	0.565	0.695	0.689

Entire State (Wyoming)

WYOMING
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 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	502	981	0.000	0.596	0.591
	06 CHURCHES	88,874	524,937	0.937	0.764	0.757
	07 SCHOOLS	205,428	1,133,443	0.533	0.686	0.680
	08 OFFICES AND BANKS	29,695	106,064	0.733	0.725	0.719
	09 REC. FACILITIES	16,729	83,465	12.487	2.820	2.795
	13 MOTOR VEHICLE RISKS	497	2,837	0.000	0.596	0.591
	14 OTHER NON-MANUF.	38,532	182,050	0.048	0.602	0.597
	TOTAL*	380,257	2,033,777	1.118	0.792	0.785
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	9,067	51,885	5.427	1.854	1.837
	04 OTHER MERCANTILE RS	44,735	244,403	0.100	0.991	0.982
	08 OFFICES AND BANKS	57,961	354,196	0.667	1.084	1.074
	09 REC. FACILITIES	141,188	680,956	0.332	1.014	1.005
	13 MOTOR VEHICLE RISKS	181,130	885,493	2.526	1.438	1.425
	14 OTHER NON-MANUF.	42,096	217,580	2.530	1.400	1.388
	15 STORAGE	30,175	195,039	0.000	0.977	0.968
	21 METAL MANUFACTURING	4,785	30,435	0.000	0.985	0.976
	22 OTHER MANUFACTURING	2,976	35,619	0.000	0.985	0.976
	TOTAL*	514,113	2,695,606	1.368	1.213	1.202
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	14,730	110,864	2.650	1.413	1.400
	08 OFFICES AND BANKS	2,657	13,365	0.074	0.998	0.989
	13 MOTOR VEHICLE RISKS	314	7,160	0.000	0.987	0.978
	14 OTHER NON-MANUF.	2,980	12,216	0.000	0.986	0.977
	15 STORAGE	989	5,248	0.000	0.987	0.978
	21 METAL MANUFACTURING	42,108	308,736	2.057	1.324	1.312
	22 OTHER MANUFACTURING	48,981	369,501	0.893	1.123	1.113
	TOTAL*	112,759	827,090	1.504	1.228	1.217
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	103,800	528,311	0.059	0.970	0.961
	08 OFFICES AND BANKS	14,830	85,560	0.450	1.055	1.046
	14 OTHER NON-MANUF.	5,651	31,776	0.000	0.985	0.976
	TOTAL*	124,281	645,647	0.103	0.981	0.972

Entire State (Wyoming)

WYOMING
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 5 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 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	144,765	817,690	0.348	0.794	0.787
	02 OTHER HABITATIONAL	87,619	446,400	1.577	0.997	0.988
	03 RESTAURANTS & BARS	135,015	966,424	0.613	0.789	0.782
	04 OTHER MERCANTILE RS	595,420	3,120,084	0.632	0.927	0.919
	06 CHURCHES	89,314	526,151	0.932	0.766	0.760
	07 SCHOOLS	207,806	1,171,741	0.527	0.693	0.687
	08 OFFICES AND BANKS	225,440	1,175,960	0.341	0.926	0.918
	09 REC. FACILITIES	188,967	981,963	1.661	1.293	1.281
	10 HOTELS AND MOTELS	507,874	2,509,514	0.701	0.845	0.838
	13 MOTOR VEHICLE RISKS	281,900	1,289,342	2.357	1.479	1.466
	14 OTHER NON-MANUF.	143,957	791,884	0.900	1.078	1.068
	15 STORAGE	104,319	556,595	1.018	1.092	1.082
	21 METAL MANUFACTURING	65,046	429,058	1.341	1.284	1.273
	22 OTHER MANUFACTURING	71,500	561,576	4.059	2.083	2.064
	TOTAL*	2,848,942	15,344,382	1.005	1.009	1.000

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

WYOMING

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
10 MONOLINE	01 BUILDINGS	326,317	1,705,750	1.693	1.225
	02 RES. APTS. AND COND	9,641	66,936	0.598	0.433
	03 OFFICES	21,474	94,099	0.448	0.324
	04 MERCANTILE - HIGH	24,748	135,319	1.922	1.391
	05 MERCANTILE - MEDIUM	5,924	35,861	0.150	0.109
	06 MERCANTILE - LOW	3,332	17,937	0.544	0.394
	07 MOTELS AND HOTELS	17,853	112,770	0.000	0.000
	08 INSTITUTIONAL - HIG	6,342	58,685	0.000	0.000
	09 INSTITUTIONAL - LOW	14,141	82,312	0.000	0.000
	10 INDUST-PROC - HIGH	716	4,128	0.000	0.000
	11 INDUST-PROC - LOW	7,122	38,897	0.000	0.000
	12 SERVICE - HIGH	9,976	51,006	0.519	0.376
	13 SERVICE - LOW	18,777	88,406	0.097	0.070
	14 CONTRACTORS	4,331	19,744	19.261	13.937
	TOTAL*	470,694	2,511,850	1.505	1.089
31 MULTILINE MOTEL/HOTEL	01 BUILDINGS	129,644	627,016	1.618	1.171
	07 MOTELS AND HOTELS	51,228	227,320	1.649	1.193
	TOTAL*	180,872	854,336	1.627	1.177
32 MULTILINE APARTMENT	01 BUILDINGS	208,891	1,163,303	1.422	1.029
	02 RES. APTS. AND COND	60,011	360,981	0.699	0.506
	TOTAL*	268,902	1,524,284	1.261	0.912
33 MULTILINE OFFICE	01 BUILDINGS	64,559	391,181	0.223	0.161
	03 OFFICES	10,397	76,370	1.891	1.368
	04 MERCANTILE - HIGH	1,162	2,533	0.000	0.000
	08 INSTITUTIONAL - HIG	41	302	0.000	0.000
	12 SERVICE - HIGH	228	679	0.000	0.000
	14 CONTRACTORS	122	287	0.000	0.000
	TOTAL*	76,509	471,352	0.445	0.322

WYOMING

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	301,179	1,437,928	1.752	1.268
	03 OFFICES	252	794	0.000	0.000
	04 MERCANTILE - HIGH	42,224	206,864	0.245	0.177
	05 MERCANTILE - MEDIUM	25,235	159,702	1.503	1.088
	06 MERCANTILE - LOW	12,272	84,653	0.687	0.497
	08 INSTITUTIONAL - HIG	20	43	0.000	0.000
	11 INDUST-PROC - LOW	231	1,352	0.000	0.000
	12 SERVICE - HIGH	2,014	4,901	0.000	0.000
	13 SERVICE - LOW	599	2,221	0.000	0.000
	14 CONTRACTORS	2,472	10,722	0.224	0.162
	TOTAL*	386,498	1,909,180	1.513	1.095
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	317,044	1,759,045	1.638	1.185
	03 OFFICES	262	1,192	0.000	0.000
	04 MERCANTILE - HIGH	6	6	0.000	0.000
	08 INSTITUTIONAL - HIG	31,388	182,728	1.710	1.237
	09 INSTITUTIONAL - LOW	40,214	186,131	0.378	0.274
	12 SERVICE - HIGH	70	236	0.000	0.000
	13 SERVICE - LOW	34	34	0.000	0.000
	14 CONTRACTORS	0	6	0.000	0.000
	TOTAL*	389,018	2,129,378	1.512	1.094
36 MULTILINE SERVICES	01 BUILDINGS	229,524	1,217,471	1.706	1.234
	03 OFFICES	183	2,114	0.000	0.000
	04 MERCANTILE - HIGH	2,335	6,963	0.000	0.000
	05 MERCANTILE - MEDIUM	62	316	0.000	0.000
	06 MERCANTILE - LOW	161	914	0.000	0.000
	08 INSTITUTIONAL - HIG	2,491	15,145	0.000	0.000
	09 INSTITUTIONAL - LOW	2,679	10,981	0.000	0.000
	10 INDUST-PROC - HIGH	273	2,124	0.000	0.000
	11 INDUST-PROC - LOW	324	595	0.000	0.000
	12 SERVICE - HIGH	56,039	400,223	0.726	0.525
	13 SERVICE - LOW	26,598	132,170	0.350	0.253
	14 CONTRACTORS	987	3,727	0.000	0.000
	TOTAL*	321,656	1,792,743	1.373	0.993

WYOMING

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 09/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	55,014	294,632	0.635	0.459
	03 OFFICES	162	746	0.000	0.000
	04 MERCANTILE - HIGH	48	189	0.000	0.000
	10 INDUST-PROC - HIGH	5,994	34,635	0.000	0.000
	11 INDUST-PROC - LOW	15,371	116,612	0.654	0.473
	12 SERVICE - HIGH	97	730	0.000	0.000
	13 SERVICE - LOW	18	69	0.000	0.000
	14 CONTRACTORS	490	1,066	0.000	0.000
	TOTAL*	77,194	448,679	0.583	0.422
38 MULTILINE CONTRACTORS	01 BUILDINGS	72,802	366,130	1.188	0.860
	03 OFFICES	1,452	8,298	0.819	0.593
	04 MERCANTILE - HIGH	1,085	5,427	0.000	0.000
	06 MERCANTILE - LOW	71	480	0.000	0.000
	11 INDUST-PROC - LOW	169	689	0.000	0.000
	12 SERVICE - HIGH	563	2,167	4.337	3.138
	13 SERVICE - LOW	0	115	0.000	0.000
	14 CONTRACTORS	41,882	242,176	0.929	0.672
	TOTAL*	118,024	625,482	1.093	0.791
TOTAL ALL TOPS*	01 BUILDINGS	1,704,974	8,962,456	1.545	1.118
	02 RES. APTS. AND COND	69,652	427,917	0.685	0.496
	03 OFFICES	34,182	183,613	0.891	0.645
	04 MERCANTILE - HIGH	71,608	357,301	0.809	0.585
	05 MERCANTILE - MEDIUM	31,221	195,879	1.243	0.899
	06 MERCANTILE - LOW	15,836	103,984	0.647	0.468
	07 MOTELS AND HOTELS	69,081	340,090	1.223	0.885
	08 INSTITUTIONAL - HIG	40,282	256,903	1.332	0.964
	09 INSTITUTIONAL - LOW	57,034	279,424	0.267	0.193
	10 INDUST-PROC - HIGH	6,983	40,887	0.000	0.000
	11 INDUST-PROC - LOW	23,217	158,145	0.433	0.313
	12 SERVICE - HIGH	68,987	459,942	0.700	0.507
	13 SERVICE - LOW	46,026	223,015	0.242	0.175
	14 CONTRACTORS	50,284	277,728	2.443	1.768
	TOTAL*	2,289,367	12,267,284	1.382	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.

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TABLE 7 - BASIC GROUP II RELATIVITY ANALYSIS

	(1) ACCIDENT YEAR ENDING 09/30/17 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	(2) ACCIDENT YEARS 2008-2017 EXPER. RATIO AT CURRENT PMF	(3) FORMULA RELATIVITY (2) / 1.349	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELATIVITY D	(6) BALANCED FORMULA RELATIVITY E	(7) NORMALIZED FORMULA RELATIVITY F	(8) INDICATED CHANGE G
MONOLINE	851,534	1.116	0.827	0.150	0.974	0.974	0.9649	
MULTILINE	3,493,692	1.406	1.042	0.438	1.018	1.018	1.0085	
COVERAGE	4,345,226	1.349	1.000			1.0094	B	1.0000
MULTILINE TOP								
31 MOTEL/HOTEL	316,780	1.445	1.071	0.063	1.004	1.012	1.0026	+3.9%
32 APARTMENT	557,135	2.140	1.586	0.104	1.061	1.069	1.0590	+9.8%
33 OFFICE	114,827	0.834	0.618	0.035	0.987	0.995	0.9857	+2.2%
34 MERCANTILE	690,494	1.288	0.955	0.126	0.994	1.002	0.9927	+2.9%
35 INSTITUTIONAL	922,205	1.510	1.119	0.176	1.021	1.029	1.0194	+5.6%
36 SERVICES	564,010	1.192	0.884	0.109	0.987	0.995	0.9857	+2.2%
37 INDUST/PROCESS	132,480	0.704	0.522	0.034	0.984	0.992	0.9828	+1.9%
38 CONTRACTORS	195,761	0.601	0.446	0.043	0.976	0.984	0.9748	+1.0%
	3,493,692	1.406 B	1.042		1.010 B	1.018 B	1.0085 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))

E - (6) = (5) * (1.018/1.010)

F - (7) = (6) / 1.0094

G - (8) = (NORMALIZED RELATIVITY FOR TOP) / (NORMALIZED MONOLINE RELATIVITY (TOP 10)) - 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.

COLUMN (1)

AGGREGATE LOSS COSTS

The latest accident 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 EXPERIENCE RATIO

These experience ratios are the ratio of the combined ten year CSP adjusted incurred losses (adjusted to current deductible and prospective cost levels including loss development, 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.

COLUMN (3)

FORMULA RELATIVITY

The formula relativities are the ratios of the ten year experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year 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.

EXPLANATORY NOTES TO TABLE 7 (Cont'd)

COLUMN (3)
(Cont'd)

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 the 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.

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.

EXPLANATORY NOTES TO TABLE 7 (Cont'd)

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))

WYOMING

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>GROUP</u>	<u>2016 AGGREGATE LOSS COSTS</u>	<u>2012 - 2016 AGGREGATE LOSS COSTS</u>	<u>FIVE-YEAR EXP RATIO</u>	<u>RELATIVITY</u>
MONOLINE 10	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

TYPE OF POLICY	RATING GROUP	(1) 2016 AGGREGATE LOSS COSTS	(2) 2012 - 2016 AGGREGATE LOSS COSTS	(3) FIVE-YEAR EXP RATIO	(4) RELATIVITY
MULTILINE ## 3X & 7X	150	720,095	3,333,227	0.795	0.934
	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.

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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>
TOTAL ALL TOPS#	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
WYOMING
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	0.890	0.064	0.993	0.995	
31	1.841	0.074	1.046	1.048	+5.3%
32	1.666	0.045	1.023	1.025	+3.0%
33	0.452	0.053	0.959	0.961	-3.4%
34	1.297	0.092	1.024	1.026	+3.1%
35	0.458	0.076	0.942	0.944	-5.1%
36	1.408	0.040	1.014	1.016	+2.1%
CLASS GROUP					
01	0.997	0.034	1.000	1.002	
02	1.068	0.059	1.004	1.006	
03	0.704	0.054	0.981	0.983	
04	1.118	0.010	1.001	1.003	
05	0.853	0.021	0.997	0.998	
06	0.170	0.012	0.979	0.981	
07	0.395	0.036	0.967	0.969	
08	0.599	0.016	0.992	0.993	
09	0.553	0.082	0.953	0.954	
10	1.382	0.072	1.024	1.025	
11	1.119	0.048	1.005	1.007	
12	1.937	0.071	1.048	1.050	
13	0.382	0.019	0.982	0.983	
16	0.728	0.025	0.992	0.994	

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

TABLE 11
WYOMING
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	0.939	0.095	0.994	0.994	
33	0.517	0.007	0.995	0.996	+0.2%
34	0.214	0.040	0.940	0.940	-5.4%
35	0.462	0.021	0.984	0.984	-1.0%
36	1.675	0.064	1.034	1.034	+4.0%
37	1.100	0.030	1.003	1.003	+0.9%
38	1.071	0.101	1.007	1.007	+1.3%
CLASS GROUP					
30	0.623	0.040	0.981	0.977	
31	0.951	0.061	0.997	0.993	
32	1.352	0.112	1.034	1.030	
33	0.703	0.052	0.982	0.978	
34	1.683	0.056	1.030	1.025	
35	5.372	0.010	1.017	1.013	
36	0.438	0.026	0.979	0.975	
37	0.012	0.010	0.957	0.953	
38	0.202	0.041	0.936	0.933	

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

TABLE 12
WYOMING
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. 06/30/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) FISCAL 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 FOOD&BEV. (RETAIL)	\$9,462	\$42,079	0.739	0.833	1	0.996
	02 RESTAURANTS	12,850	54,176	0.301	0.340	2	1.000
	03 STORES	10,712	54,048	0.145	0.163	2	0.977
	04 VENDING & RENTAL	2,076	8,077	0.000	0.000	0	0.997
	05 FOOD & BEV. DIST.	4,884	9,231	0.000	0.000	0	0.993
	06 NON-FOOD&BEV.DIST	3,477	31,666	0.000	0.000	0	0.975
	07 CLUBS, AMSMT&SPRTS	102,619	423,562	0.184	0.208	10	0.963
	08 HEALTH CARE FACIL	2,545	8,308	0.000	0.000	0	0.988
	09 HOTELS AND MOTELS	141,813	591,493	0.492	0.555	22	0.949
	10 SCHLS & CHURCHES	83,150	299,609	1.094	1.235	8	1.020
	11 APARTMENTS	88,714	332,303	0.896	1.011	11	1.002
	12 BUILDINGS&OFFICES	102,512	403,943	1.751	1.976	20	1.044
	13 MISC. PREMISES	2,270	10,411	0.000	0.000	0	0.978
	TOTAL *	\$567,084	\$2,268,906	0.795		76	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$420,636	\$2,026,798	0.903	1.018	99	1.000
	TOTAL *	\$420,636	\$2,026,798	0.903		99	
32 MULT APARTMENT	11 APARTMENTS	\$137,051	\$781,329	1.644	1.854	31	1.032
	12 BUILDINGS&OFFICES	20,194	96,210	2.919	3.293	6	1.076
	TOTAL *	\$157,245	\$877,539	1.807		37	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$278,286	\$1,393,141	0.777	0.877	51	1.008
	13 MISC. PREMISES	1,304	6,254	0.000	0.000	0	0.945
	TOTAL *	\$279,590	\$1,399,395	0.773		51	
34 MULT MERCANTILE	01 FOOD&BEV. (RETAIL)	\$120,926	\$501,192	1.151	1.298	21	1.028
	02 RESTAURANTS	238,330	1,253,216	1.258	1.419	62	1.032
	03 STORES	137,138	696,300	0.950	1.072	50	1.009
	04 VENDING & RENTAL	53	893	0.000	0.000	0	1.029
	05 FOOD & BEV. DIST.	16,557	96,905	1.179	1.330	8	1.024
	06 NON-FOOD&BEV.DIST	17,616	104,736	0.222	0.250	3	1.006
	12 BUILDINGS&OFFICES	36,280	181,798	1.389	1.567	11	1.077
	TOTAL *	\$566,900	\$2,835,040	1.134		155	

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

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		FISCAL A.Y.E. 06/30/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	FISCAL A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
35 MULT INSTITUT.	07 CLUBS,AMSMT&SPRTS	\$19,836	\$63,394	0.163	0.184	2	0.915
	08 HEALTH CARE FACIL	13,707	66,006	0.343	0.386	5	0.938
	10 SCHLS & CHURCHES	440,820	2,298,972	0.561	0.633	86	0.968
	12 BUILDINGS&OFFICES	1,476	7,640	0.000	0.000	0	0.991
	13 MISC. PREMISES	0	10,752	0.000	0.000	0	0.929
	16 GOVT SUBDIVISIONS	5,812	617,888	0.296	0.334	12	0.938
	TOTAL *	\$481,651	\$3,064,652	0.533		105	
36 MULT SERVICES	03 STORES	\$18,223	\$85,276	0.061	0.069	1	0.998
	04 VENDING & RENTAL	5,819	26,205	1.721	1.942	2	1.019
	07 CLUBS,AMSMT&SPRTS	111,265	484,279	0.610	0.689	12	0.984
	08 HEALTH CARE FACIL	213	425	0.000	0.000	0	1.009
	09 HOTELS AND MOTELS	15,471	90,481	0.181	0.204	2	0.969
	10 SCHLS & CHURCHES	74	348	0.000	0.000	0	1.041
	12 BUILDINGS&OFFICES	8,654	47,317	3.255	3.672	5	1.066
	13 MISC. PREMISES	20,245	99,950	0.521	0.588	7	0.999
	TOTAL *	\$179,964	\$834,281	0.670		29	
TOTAL ALL TOP	01 FOOD&BEV. (RETAIL)	\$130,388	\$543,271	1.121		22	
	02 RESTAURANTS	251,180	1,307,392	1.209		64	
	03 STORES	166,073	835,624	0.801		53	
	04 VENDING & RENTAL	7,948	35,175	1.260		2	
	05 FOOD & BEV. DIST.	21,441	106,136	0.910		8	
	06 NON-FOOD&BEV.DIST	21,093	136,402	0.185		3	
	07 CLUBS,AMSMT&SPRTS	233,720	971,235	0.385		24	
	08 HEALTH CARE FACIL	16,465	74,739	0.285		5	
	09 HOTELS AND MOTELS	577,920	2,708,772	0.782		123	
	10 SCHLS & CHURCHES	524,044	2,598,929	0.645		94	
	11 APARTMENTS	225,765	1,113,632	1.350		42	
	12 BUILDINGS&OFFICES	447,402	2,130,049	1.192		93	
	13 MISC. PREMISES	23,819	127,367	0.443		7	
	16 GOVT SUBDIVISIONS	5,812	617,888	0.296		12	
	TOTAL *	\$2,653,070	\$13,306,611	0.886		552	

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

TABLE 13
WYOMING
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. 06/30/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) FISCAL 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	30 SERVICE	\$73,870	\$455,467	0.189	0.246	6	0.972
	31 LIGHT CONTRACTING	98,212	475,008	0.698	0.912	25	0.987
	32 MEDIUM CONTRCTING	569,717	2,797,361	0.886	1.157	90	1.024
	33 HEAVY CONTRACTING	623,085	4,385,280	0.638	0.834	31	0.972
	34 DEALER OR DISTRIB	56,086	220,281	0.663	0.866	3	1.019
	35 LGT. MANUFACTURER	712	4,554	10.903	14.245	2	1.007
	36 MED. MANUFACTURER	42,713	294,865	0.536	0.700	1	0.969
	37 HVY. MANUFACTURER	7,182	51,583	0.003	0.004	1	0.947
	38 MISC. OPERATION	39,971	138,743	0.140	0.183	4	0.927
	TOTAL *	\$1,511,548	\$8,823,142	0.700		163	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$6,322	\$20,708	0.000	0.000	0	0.989
	32 MEDIUM CONTRCTING	229	1,311	0.000	0.000	0	1.026
	33 HEAVY CONTRACTING	8,648	42,659	0.000	0.000	0	0.974
	38 MISC. OPERATION	2,834	10,411	1.812	2.367	1	0.929
	TOTAL *	\$18,033	\$75,089	0.285		1	
34 MULT MERCANTILE	30 SERVICE	\$25,459	\$223,295	0.242	0.316	8	0.919
	32 MEDIUM CONTRCTING	2,680	10,143	0.000	0.000	0	0.969
	34 DEALER OR DISTRIB	96,333	512,458	0.231	0.301	18	0.964
	38 MISC. OPERATION	1,448	7,813	0.995	1.300	3	0.877
	TOTAL *	\$125,920	\$753,709	0.237		29	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$996	\$10,994	0.923	1.206	2	0.977
	32 MEDIUM CONTRCTING	47,971	206,847	0.466	0.608	6	1.014
	TOTAL *	\$48,967	\$217,841	0.475		8	
36 MULT SERVICES	30 SERVICE	\$4,669	\$26,860	0.091	0.119	1	1.010
	31 LIGHT CONTRACTING	10,315	56,042	1.205	1.575	8	1.026
	32 MEDIUM CONTRCTING	10,852	44,571	0.000	0.000	0	1.065
	33 HEAVY CONTRACTING	20,211	115,025	0.000	0.000	0	1.011
	34 DEALER OR DISTRIB	111,157	540,469	2.481	3.242	36	1.060
	36 MED. MANUFACTURER	10,491	34,444	1.524	1.992	7	1.008
	38 MISC. OPERATION	61,277	690,532	0.166	0.217	23	0.964
	TOTAL *	\$228,972	\$1,507,943	1.375		75	

TABLE 13
WYOMING
MANUFACTURERS AND CONTRACTORS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

SUMMARY OF EXPERIENCE USED IN RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		FISCAL A.Y.E. 06/30/2017 AGGREGATE LOSS COSTS AT CURRENT LEVEL	FISCAL A.Y.E. 2013 - 2017 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
37 MULT INDUST/PROC.	31 LIGHT CONTRACTING	\$12	\$56	0.000	0.000	0	0.996
	32 MEDIUM CONTRCTING	64,931	325,453	1.691	2.209	6	1.033
	33 HEAVY CONTRACTING	226,954	1,587,884	0.548	0.716	5	0.981
	34 DEALER OR DISTRIB	718	3,438	0.000	0.000	0	1.029
	35 LGT. MANUFACTURER	1,108	6,074	0.000	0.000	0	1.016
	36 MED. MANUFACTURER	77,159	361,300	0.115	0.151	5	0.978
	37 HVY. MANUFACTURER	42,172	189,813	0.011	0.014	1	0.956
	38 MISC. OPERATION	1,571	8,543	0.000	0.000	0	0.936
	TOTAL *	\$414,625	\$2,482,561	0.587		17	
38 MULT CONTRACTORS	30 SERVICE	\$160,081	\$790,812	0.628	0.821	15	0.984
	31 LIGHT CONTRACTING	192,733	861,936	0.783	1.023	33	1.000
	32 MEDIUM CONTRCTING	578,604	3,160,204	1.166	1.523	124	1.038
	33 HEAVY CONTRACTING	198,042	1,026,944	0.312	0.407	13	0.985
	38 MISC. OPERATION	925	7,914	0.000	0.000	0	0.939
	TOTAL *	\$1,130,385	\$5,847,810	0.874		185	
TOTAL ALL TOP	30 SERVICE	\$264,079	\$1,496,434	0.459		30	
	31 LIGHT CONTRACTING	308,590	1,424,744	0.754		68	
	32 MEDIUM CONTRCTING	1,274,984	6,545,890	1.028		226	
	33 HEAVY CONTRACTING	1,076,940	7,157,792	0.542		49	
	34 DEALER OR DISTRIB	264,294	1,276,646	1.268		57	
	35 LGT. MANUFACTURER	1,820	10,628	4.265		2	
	36 MED. MANUFACTURER	130,363	690,609	0.367		13	
	37 HVY. MANUFACTURER	49,354	241,396	0.010		2	
	38 MISC. OPERATION	108,026	863,956	0.207		31	
	TOTAL *	\$3,478,450	\$19,708,095	0.765		478	

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

TABLE 14
WYOMING
PRODUCTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
TOP					
10	0.908	0.385	0.964	0.961	
34	1.062	0.394	1.024	1.021	+ 6.2%
36	0.945	0.198	0.989	0.986	+ 2.6%
37	1.036	0.541	1.019	1.017	+ 5.8%
CLASS GROUP					
3	0.939	0.535	0.967	0.971	
4	1.062	0.425	1.026	1.029	
5	1.158	0.132	1.020	1.023	
6	0.984	0.341	0.995	0.998	
7	0.957	0.186	0.992	0.995	

* 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: 0.976
TOP 36: 0.991
TOP 37: 0.919

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. 12/31/2016 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2012 - 2016 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	\$21,602,530	\$83,447,793	0.852	0.787	1,581	0.933
	04 DLR,DST-NOTFD/DRG	9,679,270	41,811,675	1.278	1.182	666	0.990
	05 MAN.NTFD/DRG (LOW)	1,692,267	7,299,063	0.767	0.709	64	0.984
	06 MAN.NTFD/DRG (MED)	10,333,678	44,740,395	0.937	0.867	509	0.960
	07 MAN.NTFD/DRG (HGH)	2,805,495	12,365,722	1.011	0.935	148	0.957
	TOTAL *	\$46,113,240	\$189,664,648	0.967		2,968	
34 MULT MERCANTILE	03 MAN,DLR,DSTFD/DRG	\$5,884,889	\$28,782,063	1.470	1.359	936	0.991
	04 DLR,DST-NOTFD/DRG	32,124,091	153,045,789	1.148	1.061	2,174	1.051
	06 MAN.NTFD/DRG (MED)	15,743	64,180	0.000	0.000	0	1.019
	TOTAL *	\$38,024,723	\$181,892,032	1.197		3,110	
36 MULT SERVICES	04 DLR,DST-NOTFD/DRG	\$3,789,140	\$17,974,549	1.089	1.007	780	1.016
	06 MAN.NTFD/DRG (MED)	60,544	302,132	0.755	0.698	8	0.985
	TOTAL *	\$3,849,684	\$18,276,681	1.084		788	
37 MULT INDUST/PROC.	03 MAN,DLR,DSTFD/DRG	\$18,758,762	\$92,830,487	1.011	0.935	3,210	0.987
	05 MAN.NTFD/DRG (LOW)	3,999,375	22,161,197	1.454	1.345	287	1.040
	06 MAN.NTFD/DRG (MED)	30,062,799	137,041,119	1.114	1.030	1,814	1.015
	07 MAN.NTFD/DRG (HGH)	8,087,615	39,304,471	1.047	0.968	549	1.012
	TOTAL *	\$60,908,551	\$291,337,274	1.096		5,860	
TOTAL ALL TOP	03 MAN,DLR,DSTFD/DRG	\$46,246,181	\$205,060,343	0.995		5,727	
	04 DLR,DST-NOTFD/DRG	45,592,501	212,832,013	1.171		3,620	
	05 MAN.NTFD/DRG (LOW)	5,691,642	29,460,260	1.250		351	
	06 MAN.NTFD/DRG (MED)	40,472,764	182,147,826	1.068		2,331	
	07 MAN.NTFD/DRG (HGH)	10,893,110	51,670,193	1.038		697	
	TOTAL *	\$148,896,198	\$681,170,635	1.082		12,726	

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

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

TOP	(1) BAILEY FORMULA RELATIV.	(2) CREDIBILITY Z	(3) Z-WTD RELATIV.	(4) BALANCED RELATIV.	(5) INDICATED CHANGE *
10	1.007	0.764	1.005	1.004	
34	1.052	0.588	1.030	1.029	+2.5%
36	1.019	0.533	1.010	1.009	+0.5%
37	0.934	0.146	0.990	0.989	-1.5%
38	0.991	1.000	0.991	0.990	-1.4%
CLASS GROUP					
1	0.852	0.596	0.909	0.903	
2	1.029	0.508	1.015	1.008	
11	1.067	0.341	1.022	1.015	
12	1.022	1.000	1.022	1.015	
13	0.802	0.282	0.940	0.933	

* 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.
	1.324	0.399	1.119	1.116
	1.182	0.648	1.114	1.111
	1.139	0.606	1.082	1.079
	1.138	0.577	1.078	1.075
	1.449	0.200	1.077	1.074
	1.178	0.429	1.073	1.070
	1.279	0.243	1.062	1.059
	1.106	0.442	1.045	1.043
	1.134	0.344	1.044	1.041
	1.097	0.371	1.035	1.032
	1.093	0.381	1.034	1.032
	1.132	0.256	1.032	1.029
	1.211	0.162	1.031	1.029
	1.122	0.206	1.024	1.021
	1.042	0.508	1.021	1.018
	1.131	0.166	1.021	1.018
	1.046	0.224	1.010	1.007
	1.036	0.251	1.009	1.006
	1.009	0.291	1.003	1.000
	1.009	0.228	1.002	0.999
	1.001	0.274	1.000	0.998
Wyoming	0.971	0.150	0.996	0.993
	0.983	0.474	0.992	0.989
	0.962	0.229	0.991	0.988
	0.975	0.363	0.991	0.988
	0.970	0.333	0.990	0.987
	0.957	0.247	0.989	0.987
	0.890	0.104	0.988	0.985
	0.966	0.347	0.988	0.985
	0.971	0.428	0.988	0.985
	0.955	0.336	0.985	0.982
	0.943	0.307	0.982	0.980
	0.951	0.462	0.977	0.975
	0.775	0.097	0.976	0.973
	0.841	0.161	0.973	0.970
	0.926	0.385	0.971	0.968
	0.938	0.512	0.968	0.965
	0.882	0.281	0.965	0.963
	0.904	0.382	0.962	0.960
	0.835	0.230	0.959	0.957
	0.749	0.166	0.953	0.951
	0.527	0.076	0.952	0.950
	0.760	0.206	0.945	0.943
	0.841	0.337	0.943	0.941
	0.702	0.168	0.942	0.940
	0.682	0.164	0.939	0.937
	0.475	0.085	0.939	0.936
	0.853	0.407	0.937	0.935
	0.708	0.188	0.937	0.935
	0.812	0.350	0.930	0.927
	0.791	0.594	0.870	0.868
	0.714	0.502	0.844	0.842

* Sorted by balanced relative change.

TABLE 17
WYOMING
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. 12/31/2016 AGGREGATE LOSS COSTS AT CURRENT LEVEL	(2) CALENDAR A.Y.E. 2012 - 2016 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	\$1,674	\$8,406	0.000	0.000	0	0.900
	02 RET.STRS-NTFD/DRG	4,825	28,733	0.322	0.335	2	1.005
	11 COMP. OPS. (LOW)	11,108	54,990	0.329	0.342	3	1.013
	12 COMP. OPS. (MED)	555,511	2,387,902	0.615	0.640	23	1.012
	13 COMP. OPS. (HGH)	60,782	605,316	0.281	0.292	2	0.930
	TOTAL *	\$633,900	\$3,085,347	0.574		30	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$17,905	\$100,982	0.111	0.116	2	0.922
	02 RET.STRS-NTFD/DRG	8,208	44,467	0.000	0.000	0	1.030
	12 COMP. OPS. (MED)	13,813	114,162	0.010	0.010	0	1.037
	TOTAL *	\$39,926	\$259,611	0.053		2	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$273	\$1,468	0.000	0.000	0	0.904
	02 RET.STRS-NTFD/DRG	23,383	88,048	4.333	4.512	28	1.010
	11 COMP. OPS. (LOW)	4,661	20,702	2.868	2.987	4	1.017
	12 COMP. OPS. (MED)	2,524	16,984	0.000	0.000	0	1.017
	13 COMP. OPS. (HGH)	6,843	37,072	0.000	0.000	0	0.935
	TOTAL *	\$37,684	\$164,274	3.043		32	
37 MULT INDUST/PROC.	11 COMP. OPS. (LOW)	\$15	\$73	0.000	0.000	0	0.997
	12 COMP. OPS. (MED)	34,944	161,561	0.000	0.000	0	0.997
	13 COMP. OPS. (HGH)	1,902	10,839	0.000	0.000	0	0.916
	TOTAL *	\$36,861	\$172,473	0.000		0	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$16,745	\$78,048	0.000	0.000	0	0.998
	12 COMP. OPS. (MED)	503,386	2,417,992	1.426	1.485	57	0.998
	13 COMP. OPS. (HGH)	55,671	271,274	0.633	0.660	3	0.917
	TOTAL *	\$575,802	\$2,767,314	1.308		60	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$19,852	\$110,856	0.101		2	
	02 RET.STRS-NTFD/DRG	36,416	161,248	2.825		30	
	11 COMP. OPS. (LOW)	32,529	153,813	0.523		7	
	12 COMP. OPS. (MED)	1,110,178	5,098,601	0.954		80	
	13 COMP. OPS. (HGH)	125,198	924,501	0.418		5	
	TOTAL *	\$1,324,173	\$6,449,019	0.932		124	

* 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)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2016 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2012 - 2016 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	\$3,182,470	\$12,836,961	0.802		767	
	02 RET.STRS-NTFD/DRG	2,924,031	13,338,270	1.084		529	
	11 COMP. OPS. (LOW)	4,590,082	20,152,490	1.003		479	
	12 COMP. OPS. (MED)	89,807,887	402,728,315	1.020		6,697	
	13 COMP. OPS. (HGH)	9,315,286	47,098,800	0.569		288	
	TOTAL *	\$109,819,756	\$496,154,836	0.977		8,760	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$11,237,823	\$48,248,320	0.852		4,326	
	02 RET.STRS-NTFD/DRG	6,276,333	28,286,473	0.989		731	
	12 COMP. OPS. (MED)	2,175,660	11,035,192	1.187		135	
	TOTAL *	\$19,689,816	\$87,569,985	0.932		5,192	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$987,041	\$4,702,276	0.977		241	
	02 RET.STRS-NTFD/DRG	12,282,390	51,445,436	0.994		2,617	
	11 COMP. OPS. (LOW)	3,800,013	17,251,395	1.019		578	
	12 COMP. OPS. (MED)	4,607,097	22,619,676	0.874		739	
	13 COMP. OPS. (HGH)	1,134,525	6,178,738	1.015		99	
	TOTAL *	\$22,811,066	\$102,197,521	0.974		4,274	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	\$21,424	\$92,620	4.539		1	
	11 COMP. OPS. (LOW)	149,163	688,925	0.443		17	
	12 COMP. OPS. (MED)	4,495,367	21,801,280	0.926		305	
	13 COMP. OPS. (HGH)	51,766	453,230	0.413		1	
	TOTAL *	\$4,717,720	\$23,036,055	0.921		324	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$9,456,335	\$43,962,865	1.026		677	
	12 COMP. OPS. (MED)	171,965,665	815,820,275	0.958		13,853	
	13 COMP. OPS. (HGH)	17,646,239	82,295,884	0.866		809	
	TOTAL *	\$199,068,239	\$942,079,024	0.953		15,339	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$15,428,758	\$65,880,177	0.854		5,335	
	02 RET.STRS-NTFD/DRG	21,482,754	93,070,179	1.005		3,877	
	11 COMP. OPS. (LOW)	17,995,593	82,055,675	1.014		1,751	
	12 COMP. OPS. (MED)	273,051,676	1,274,004,738	0.978		21,729	
	13 COMP. OPS. (HGH)	28,147,816	136,026,652	0.773		1,197	
	TOTAL *	\$356,106,597	\$1,651,037,421	0.960		33,889	

* 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
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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
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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.
