

RULES – IMPLEMENTATION

DECEMBER 10, 2021

COMMERCIAL MULTIPLE LINE

LI-ML-2021-044

## **SOUTH DAKOTA COMMERCIAL PACKAGE POLICY REVISED PACKAGE MODIFICATION FACTOR REVISION TO BE IMPLEMENTED**

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### **KEY MESSAGE**

Revised Commercial Package Policy package modification factors for an overall statewide change of -1.3% to be implemented.

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### **UPGRADE TO WORD AND EXCEL DOCUMENTS**

As previously noted, ISO is implementing changes to our authoring and delivery systems so that **newly created** documents will be delivered in Office 365 .docx/.xlsx format to be phased in by product/service. In addition to **form** documents, we are pleased to announce that during the third quarter 2021, you will be receiving **circular cover letter** and **Notice To Manualholders (NTM)** documents in .docx format delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library, PRM and Suite +. Changes continue for other document types to be phased in by product/service. Products impacted include, but are not limited to, documents delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library (including PolicyWriting Support Forms Instructional Supplement), PRM, Statistical Plans and Suite +.

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### **BACKGROUND**

In circular [LI-ML-2021-026](#), we provided you with information about the Commercial Package Policy modification factor experience review.

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### **CONSIDERATION OF COVID-19**

ISO has considered whether any adjustments need to be made to prospective loss costs or rating factors, which are based on historical experience (pre-COVID-19), to reflect the conditions in which these loss costs or rating factors will be effective (post-COVID-19). Commercial Package Policy Modification Factors are applied to separate underlying coverages that are then combined to create a package policy. Any adjustment that is made to the underlying coverage loss costs to reflect the potential impact of COVID-19 will, therefore, also be reflected in commercial package policy rating. While there will almost certainly be long-term behavioral, social and economic changes as a result of COVID-19, we expect, based on the information currently available, that those changes will have negligible effects on Commercial Package Policy Modification Factors. Therefore, ISO is not making any explicit adjustment to those factors due to COVID-19.

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### **ISO ACTION**

We are implementing ML-2021-RLA1, which presents a review of Commercial Package Policy modification factors experience. Refer to the attachment(s) for complete details.

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## IMPORTANT NOTE

### Change in Format

This circular offers several enhancements for customers. In addition to the PDF version, exhibits and loss cost tables are now available in user-friendly Excel format rather than Word. Where possible, exhibits are linked together formulaically to clarify how calculations flow through the entire ratemaking process and to enable customers to test the effects of different assumptions on the results.

To facilitate this change, the filing has been restructured. All explanatory text, for all sections of the filing, appears first; all exhibits and tables are grouped together and appear thereafter. Exhibits have been relabeled (Exhibit A1, Exhibit A2, etc.).

We invite customers to share feedback on this revised format and suggestions for further enhancements by contacting the individuals listed in the Contact Information block.

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## EFFECTIVE DATE

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

These changes are applicable to all policies written on or after June 1, 2022.

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## COMPANY ACTION

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

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

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

WE WILL SUBMIT THIS REVISION TO THE INSURANCE DEPARTMENT ON APRIL 15, 2022. IF STATE FILING REQUIREMENTS DICTATE THAT YOU MAKE A SUBMISSION WITH THE INSURANCE DEPARTMENT, DO NOT SUBMIT IT PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Number ML-2021-RLA1, NOT this circular number. Communications with the regulator concerning a filing affecting multiple lines of business (i.e., CL, PL, AL filing designation) should specify the line(s) of business that you are addressing.

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## RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

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## POLICYHOLDER NOTIFICATION

If you decide to implement this revision, you should check all applicable laws for the state(s) to which this revision applies, to determine whether or not a specific policyholder notice requirement may apply. Please note that circular [LI-CL-2021-004](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

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## REVISION DISTRIBUTION

We will issue a Notice to Manualholders with an edition date of 6-22 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

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## REFERENCE(S)

- [LI-ML-2021-026](#) (09/10/2021) Commercial Package Policy Experience Reviewed By Staff
- [LI-CL-2021-004](#) (02/17/2021) Revised Lead Time Requirements Listing

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## ATTACHMENT(S)

Filing [ML-2021-RLA1](#)

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## FILES AVAILABLE FOR DOWNLOAD

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

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

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## DATA QUALITY

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

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## ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

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

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

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## CONTACT INFORMATION

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

SOUTH DAKOTA

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2021-RLA1

EXECUTIVE SUMMARY

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PURPOSE

This document:

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

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CONSIDERATION OF COVID-19

ISO has considered whether any adjustments need to be made to prospective loss costs or rating factors, which are based on historical experience (pre-COVID-19), to reflect the conditions in which these loss costs or rating factors will be effective (post-COVID-19). Commercial Package Policy Modification Factors are applied to separate underlying coverages that are then combined to create a package policy. Any adjustment that is made to the underlying coverage loss costs to reflect the potential impact of COVID-19 will therefore also be reflected in commercial package policy rating. While there will almost certainly be long-term behavioral, social and economic changes as a result of COVID-19, we expect, based on the information currently available, that those changes will have negligible effects on Commercial Package Policy Modification Factors. Therefore, ISO is not making any explicit adjustment to those factors due to COVID-19.

PMF CHANGES

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

<u>Type of Policy</u>	<u>Property</u>	<u>Liability</u>	<u>Prop. &amp; Liab. Total</u>
Motel/Hotel	0.0%	0.0%	0.0%
Apartment	0.0%	0.0%	0.0%
Office	-3.2%	0.0%	-1.7%
Mercantile	1.2%	-1.0%	0.5%
Institutional	-6.1%	-1.0%	-5.2%
Services	-3.0%	0.0%	-2.1%
Indust./Proc.	1.5%	0.0%	1.0%
Contractors	<u>-2.0%</u>	<u>0.0%</u>	<u>-0.3%</u>
Statewide	-2.0%	-0.2%	-1.3%

SOUTH DAKOTA

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2021-RLA1

EXECUTIVE SUMMARY

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INDICATED  
VS. CAPPED

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

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HISTORICAL  
SOURCE DATA

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

- Basic Group I: five fiscal accident years ending 12/31/19.
  - Basic Group II: ten fiscal accident years ending 12/31/19.
  - Special Causes of Loss: five fiscal accident years ending 12/31/19.
  - 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 12/31/19.
  - Manufacturers and Contractors: five fiscal accident years ending 12/31/19.
  - Products: three calendar accident years ending 12/31/19.
  - Local Products and Completed Operations: three calendar accident years ending 12/31/19.
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PRIOR ISO  
REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-17-RLA1	ML-09-RLA1	ML-07-RLA1
<u>Dates</u>			
Implemented	11/1/2017	2/1/2010	2/1/2008
<u>Changes</u>			
Indicated	1.0%	-0.5%	-0.1%
Filed	1.1%	-0.6%	-0.1%
Implemented	1.1%	-0.6%	-0.1%

SOUTH DAKOTA

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2021-RLA1

EXECUTIVE SUMMARY

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ADJUSTMENTS  
TO REPORTED  
EXPERIENCE

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

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TEN LARGEST  
GROUPS IN  
ISO DATA BASE

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for the year ending 12/31/18 for the Annual Statement Line of Business (ASLOB) indicated.

COMMERCIAL MULTI PERIL (ASLOB 51 & 52)

1. Acuity A Mutual Insurance Company
  2. Admiral Insurance Company
  3. Travelers Indemnity Company
  4. Tokio Marine Companies
  5. Cincinnati Insurance Company
  6. Nationwide Mutual Insurance Company
  7. Liberty Mutual Insurance Company
  8. Columbia Insurance Group
  9. United Fire and Casualty Company
  10. State Auto Mutual 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 12/31/18 is:

Commercial Multi Peril (ASLOB 51 & 52). 40.4%.

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ADDITIONAL  
SUPPORTING  
MATERIAL

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

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SOUTH DAKOTA

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2021-RLA1

EXECUTIVE SUMMARY

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COMPANY DECISION

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

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

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

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

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# COMMERCIAL PACKAGE POLICY

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COMMERCIAL PACKAGE POLICY  
METHODOLOGY OVERVIEW

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OBJECTIVE

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

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STEP 1: THE  
RELATIVITY  
ANALYSES

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

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STEP 2:  
CALCULATION  
OF THE PMFs

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

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## EXPLANATORY NOTES TO EXHIBIT A2

### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS

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

EXPLANATORY NOTES TO EXHIBIT A2 (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 EXHIBIT A2 (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).

EXPLANATORY NOTES TO EXHIBITS B1 AND B2

BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

OBJECTIVE

The explanations which follow clarify Exhibits B1 and B2, the Basic Group I Relativity Analysis and the Special Causes of Loss Relativity Analysis, respectively. The purpose of these analyses is to:

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

COLUMN (1)

LEAST SQUARES FORMULA RELATIVITIES

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

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

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (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 Exhibit B3 for Basic Group I and Exhibit B4 for Special Causes of Loss). Specifically, the iteration procedure uses the following formulas:

BASIC GROUP I:

$$TOP_i = \frac{\sum_{k=1}^t W_{ik}^2 R_{ik} TER_k}{\sum_{k=1}^t W_{ik}^2 TER_k^2}, \quad \text{where } 1 \leq i \leq m;$$

$$TER_i = \frac{\sum_{k=1}^m W_{ik}^2 R_{ik} TOP_k}{\sum_{k=1}^m W_{ik}^2 TOP_k^2}, \quad \text{where } 1 \leq k \leq t;$$

SPECIAL CAUSES OF LOSS:

$$TER_i = \frac{\sum_{k=1}^m W_{ik}^2 R_{ik} TOP_k}{\sum_{k=1}^m W_{ik}^2 TOP_k^2}, \quad \text{where } 1 \leq k \leq t;$$

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

- $TOP_i$  is the relativity for the  $i$ th Type of Policy;
- $CAT_j$  is the relativity for the  $j$ th Category;
- $TER_k$  is the relativity for the  $k$ th Territory;

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (Cont'd)

COLUMN (1)  
(Cont'd)

- $W_{ik}$  is the loss cost volume at current level for the  $i$ th Type of Policy and  $k$ th Territory;
- $R_{ik}$  is the experience ratio relativity for the  $i$ th Type of Policy,  $k$ th Territory (Basic Group I);
- $R_{ij}$  is the experience ratio relativity for the  $i$ th Type of Policy,  $j$ th Category (Special Causes of Loss);
- $m$  is the number of Types of Policy in the analysis;
- $n$  is the number of Rating Groups or Categories in the analysis;
- $t$  is the number of Territories in the analysis.

The procedure determines  $m$  Type of Policy relativities using the above formulas. Then, using those results, a set of  $t$  Territory relativities (BG1) or a set of  $n$  category relativities (SCL) 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  $P$  presents the five-year adjusted aggregate loss costs for a given rating variable, and  $K$  is a constant value. For Basic Group I,  $K$  equals an aggregate loss cost volume of \$55,000,000 for territory, and \$100,000,000 for type of policy. For Special Causes of Loss,  $K$  equals an aggregate loss cost volume of \$15,000,000 for category and \$40,000,000 for type of policy.

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (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.

COLUMN (5)

INDICATED CHANGES

The indicated changes by Type of Policy is calculated as follows:

$$\text{Indicated Change} = \frac{\text{Balanced Relativity for TOP}}{\text{Monoline Relativity}} - 1$$

MULTILINE  
CONSIDERATIONS

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

$$\text{TOP y Indicated IPMF} = \frac{(\text{TOP y Current IPMF}) \times (\text{TOP y Relativity})}{\text{Monoline Relativity}}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account. If an IPMF has been capped it is so noted at the bottom of Exhibits B1 and B2.

Loss cost changes for each TOP are calculated as described on Exhibits B1 and B2.

EXPLANATORY NOTES TO EXHIBITS B3

BASIC GROUP I RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

INTRODUCTION      The experience used in the relativity analysis and displayed in Exhibits B3 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. 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)      RELATIVITIES

The relativities are the ratios of the five-year experience ratios shown in column (3) to the average five-year experience ratio for all TOP's 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.

EXPLANATORY NOTES TO EXHIBITS B4

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

INTRODUCTION	<p>The experience used in the relativity analysis and displayed on Exhibit B4 is the latest five accident years of data 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 Special Causes of Loss excess procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.</p>
COLUMN (1)	<p><u>AGGREGATE LOSS COSTS</u></p> <p>The latest accident year 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 formulas used in the simultaneous review procedure.</p>
COLUMN (2)	<p><u>5 - YEAR AGGREGATE LOSS COSTS</u></p> <p>The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).</p>
COLUMN (3)	<p><u>FIVE-YEAR EXPERIENCE RATIOS</u></p> <p>These are the ratios 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).</p>
COLUMN (4)	<p><u>CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO</u></p> <p>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 and category.</p>

EXPLANATORY NOTES TO EXHIBITS B4 (cont'd)

COLUMN (4)  
(cont'd)

The important concept underlying empirical Bayesian credibility is that credibility should depend both on the overall variation of the group of which the cell is a member and the variation of the yearly experience ratios for the cell. Therefore, if a cell's data is very stable then a relatively high credibility value is assigned, 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 (TOP and Category) within a class group. The K value is estimated from the underlying data using the empirical Bayes method and varies by TOP group. 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.

COLUMN (5)

Z-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 and categories 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.

EXPLANATORY NOTES TO EXHIBIT B5

BASIC GROUP II RELATIVITY ANALYSIS

OBJECTIVE

The explanations which follow clarify Exhibit B5, 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 EXHIBIT B5 (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 EXHIBIT B5 (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.

EXPLANATORY NOTES TO EXHIBITS B6 AND B7

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.

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH B17.

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.

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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.

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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.

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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 - EXHIBITS B8 THROUGH B17.

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  $i^{\text{th}}$  type of policy;

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

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

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

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

and  $j^{\text{th}}$  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 - EXHIBITS B8 THROUGH B17.

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  $i^{\text{th}}$  type of policy;

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

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

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

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

and  $j^{\text{th}}$  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 - EXHIBITS B8 THROUGH B17.

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  $i^{\text{th}}$  type of policy;

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

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

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

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

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

$j^{\text{th}}$  class group and  $k^{\text{th}}$  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 - EXHIBITS B8 THROUGH B17.

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:

$$W = RZ \quad \text{where:}$$

$Z$  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.

INDICATED  
CHANGES

The indicated changes by Type of Policy is calculated as follows:

$$\text{Indicated Change} = \frac{\text{Balanced Relativity for TOP}}{\text{Monoline Relativity}} - 1$$

EXPLANATORY NOTES TO GENERAL LIABILITY  
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH B17.

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.

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INSURANCE SERVICES OFFICE, INC.

## SOUTH DAKOTA

COMMERCIAL PACKAGE POLICY  
SUMMARY OF THIS REVIEW

TYPE OF POLICY	PROPERTY PMFS			LIABILITY PMFS			PROP. & LIAB. TOTAL
	CURRENT	CAPPED	% CHANGE	CURRENT	CAPPED	% CHANGE	% CHANGE
MOTEL/HOTEL(31)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
APARTMENT (32)	0.90	0.90	0.0%	1.00	1.00	0.0%	0.0%
OFFICE (33)	0.94	0.91	-3.2%	1.00	1.00	0.0%	-1.7%
MERCANTILE (34)	0.85	0.86	1.2%	1.00	0.99	-1.0%	0.5%
INSTITUTION(35)	0.82	0.77	-6.1%	1.00	0.99	-1.0%	-5.2%
SERVICES (36)	1.00	0.97	-3.0%	1.00	1.00	0.0%	-2.1%
IND/PROC (37)	0.65	0.66	1.5%	1.00	1.00	0.0%	1.0%
CONTRACTORS(38)	1.00	0.98	-2.0%	0.94	0.94	0.0%	-0.3%
STATEWIDE			-2.0%			-0.2%	-1.3%

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

MOTEL/HOTEL(31) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	205,672	0.892	-3.7%	0.859	0.874
BASIC GRP II	212,965	1.120	-1.6%	1.102	1.121
SP CAUSE/LOSS	52,012	1.133	-1.1%	1.121	1.140
* CRIME	246	0.734	0.0%	0.734	0.734
* INL. MAR.	3,704	0.910	0.0%	0.910	0.910
* FIDELITY	1,294	1.000	0.0%	1.000	1.000
TOTAL	475,893	1.000	-1.7%	0.983	1.000
LIABILITY-					
OL&T	479,472	1.000	7.2%	1.072	1.000
TOTAL	479,472	1.000	7.2%	1.072	1.000
-----					
PROP. & LIAB. TOTAL	955,365		2.8%		0.0%

APARTMENT (32) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	288,773	0.705	-0.3%	0.703	0.706
BASIC GRP II	572,907	0.984	-1.6%	0.968	0.973
SP CAUSE/LOSS	148,555	1.167	-1.3%	1.152	1.157
* CRIME	339	0.734	0.0%	0.734	0.734
* INL. MAR.	80	0.910	0.0%	0.910	0.910
* FIDELITY	2,986	1.000	0.0%	1.000	1.000
TOTAL	1,013,640	0.900	-0.9%	0.892	0.900
LIABILITY-					
OL&T	117,538	1.000	3.9%	1.039	1.000
TOTAL	117,538	1.000	3.9%	1.039	1.000
-----					
PROP. & LIAB. TOTAL	1,131,178		-0.4%		0.0%

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

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

OFFICE (33) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	155,546	0.942	-1.4%	0.929	0.951
BASIC GRP II	468,248	0.873	-6.6%	0.815	0.835
SP CAUSE/LOSS	122,600	1.251	-1.4%	1.233	1.263
* CRIME	742	0.734	0.0%	0.734	0.734
* INL. MAR.	5,973	0.910	0.0%	0.910	0.910
* FIDELITY	3,818	1.000	0.0%	1.000	1.000
TOTAL	756,927	0.940	-5.3%	0.891	0.910
LIABILITY-					
OL&T	613,939	1.009	2.5%	1.034	1.007
M&C	21,563	0.858	-1.7%	0.843	0.822
TOTAL	635,502	1.000	2.7%	1.027	1.000
-----					
PROP. & LIAB. TOTAL	1,392,429		-1.6%		-1.7%
MERCANTILE (34) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	764,601	0.648	1.1%	0.655	0.655
BASIC GRP II	1,394,685	0.961	-1.3%	0.949	0.949
SP CAUSE/LOSS	375,270	1.110	-0.5%	1.104	1.104
* CRIME	11,803	0.734	0.0%	0.734	0.734
* INL. MAR.	327,736	0.910	0.0%	0.910	0.910
* FIDELITY	67,745	1.000	0.0%	1.000	1.000
TOTAL	2,941,840	0.850	1.0%	0.858	0.860
LIABILITY-					
OL&T	888,284	0.985	-4.0%	0.946	0.950
M&C	221,016	1.206	-1.3%	1.190	1.196
LOCAL PRODUCT	127,147	1.075	1.9%	1.095	1.100
* MULTI PRODUCT	167,327	0.832	6.8%	0.888	0.888
TOTAL	1,403,774	1.000	-1.8%	0.982	0.990
-----					
PROP. & LIAB. TOTAL	4,345,614		0.1%		0.5%

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

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

INSTITUTION(35) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	1,131,316	0.803	-6.2%	0.753	0.753
BASIC GRP II	2,821,795	0.824	-6.6%	0.770	0.770
SP CAUSE/LOSS	554,003	0.837	-1.9%	0.821	0.821
* CRIME	4,986	0.734	0.0%	0.734	0.734
* INL. MAR.	8,997	0.910	0.0%	0.910	0.910
* FIDELITY	62,302	1.000	0.0%	1.000	1.000
TOTAL	4,583,399	0.820	-5.6%	0.774	0.770
LIABILITY-					
OL&T	863,461	1.032	-2.1%	1.010	1.015
M&C	79,915	0.785	1.3%	0.795	0.799
TOTAL	943,376	1.000	-1.3%	0.987	0.990
-----					
PROP. & LIAB. TOTAL	5,526,775		-4.8%		-5.2%
SERVICES (36) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	666,677	0.861	-0.4%	0.858	0.859
BASIC GRP II	1,262,918	1.124	-5.9%	1.058	1.060
SP CAUSE/LOSS	270,000	0.977	-2.4%	0.954	0.955
* CRIME	3,542	0.734	0.0%	0.734	0.734
* INL. MAR.	7,538	0.910	0.0%	0.910	0.910
* FIDELITY	31,455	1.000	0.0%	1.000	1.000
TOTAL	2,242,130	1.000	-2.7%	0.973	0.970
LIABILITY-					
OL&T	469,206	0.988	1.8%	1.006	1.002
M&C	353,645	1.048	3.5%	1.085	1.080
LOCAL PRODUCT	161,049	0.897	-5.3%	0.849	0.846
* MULTI PRODUCT	3,474	0.899	7.2%	0.964	0.964
TOTAL	987,374	1.000	0.4%	1.004	1.000
-----					
PROP. & LIAB. TOTAL	3,229,504		-1.8%		-2.1%

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

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

IND/PROC (37) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	695,213	0.615	2.2%	0.629	0.632
BASIC GRP II	359,453	0.610	-1.8%	0.599	0.602
SP CAUSE/LOSS	168,620	1.004	-3.1%	0.973	0.978
* CRIME	2,521	0.734	0.0%	0.734	0.734
* INL. MAR.	415	0.910	0.0%	0.910	0.910
* FIDELITY	20,866	1.000	0.0%	1.000	1.000
TOTAL	1,247,088	0.650	0.6%	0.654	0.660
LIABILITY-					
M&C	473,527	1.088	1.0%	1.099	1.085
LOCAL PRODUCT	35,979	0.739	-0.1%	0.738	0.729
* MULTI PRODUCT	206,372	0.884	1.6%	0.898	0.898
TOTAL	715,878	1.000	0.9%	1.009	1.000
-----					
PROP. & LIAB.	1,962,966		0.7%		1.0%
TOTAL					

CONTRACTORS(38) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	194,595	0.881	-1.4%	0.869	0.869
BASIC GRP II	344,780	1.069	-5.3%	1.012	1.012
SP CAUSE/LOSS	88,692	1.119	0.1%	1.120	1.120
* CRIME	29	0.734	0.0%	0.734	0.734
* INL. MAR.	1,078	0.910	0.0%	0.910	0.910
* FIDELITY	7,114	1.000	0.0%	1.000	1.000
TOTAL	636,288	1.000	-2.5%	0.975	0.980
LIABILITY-					
M&C	2,086,844	1.077	-0.7%	1.069	1.074
LOCAL PRODUCT	1,624,929	0.810	-1.4%	0.799	0.802
TOTAL	3,711,773	0.940	-0.9%	0.932	0.940
-----					
PROP. & LIAB.	4,348,061		-1.1%		-0.3%
TOTAL					

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

STATEWIDE *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	4,102,393	0.743	-1.5%	0.732	0.734
BASIC GRP II	7,437,751	0.905	-4.7%	0.862	0.865
SP CAUSE/LOSS	1,779,752	0.992	-1.6%	0.976	0.979
* CRIME	24,208	0.734	0.0%	0.734	0.734
* INL. MAR.	355,521	0.910	0.0%	0.910	0.910
* FIDELITY	197,580	1.000	0.0%	1.000	1.000
<u>TOTAL</u>	<u>13,897,205</u>	<u>0.853</u>	<u>-2.3%</u>	<u>0.833</u>	<u>0.836</u>
LIABILITY-					
OL&T	3,431,900	1.004	0.3%	1.007	0.992
M&C	3,236,510	1.072	0.0%	1.072	1.073
LOCAL PRODUCT	1,949,104	0.828	-1.5%	0.816	0.819
* MULTI PRODUCT	377,173	0.860	3.9%	0.894	0.894
<u>TOTAL</u>	<u>8,994,687</u>	<u>0.972</u>	<u>0.2%</u>	<u>0.974</u>	<u>0.970</u>
-----					
PROP. & LIAB. TOTAL	22,891,892		-1.3%		-1.3%

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL PACKAGE POLICY  
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

## COMBINED PMFs

TYPE OF POLICY	CURRENT COMBINED	INDICATED COMBINED	CAPPED COMBINED
MOTEL/HOTEL(31)	1.000	1.028	1.000
APARTMENT (32)	0.910	0.906	0.910
OFFICE (33)	0.970	0.950	0.950
MERCANTILE (34)	0.900	0.894	0.900
INSTITUTION(35)	0.860	0.805	0.810
SERVICES (36)	1.000	0.983	0.980
IND/PROC (37)	0.770	0.751	0.750
CONTRACTORS(38)	0.950	0.938	0.940

NOTE: Combined PMFs are provided for informational purposes only.

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
BASIC GROUP I RELATIVITY ANALYSIS

TYPE OF POLICY	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES FORMULA RELATIVITY	CREDIBILITY	WEIGHTED RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	1.117	0.044	1.005	1.013	
31	0.068	0.012	0.968	0.976	-3.7%
32	1.173	0.014	1.002	1.010	-0.3%
33	0.227	0.006	0.991	0.999	-1.4%
34	1.462	0.043	1.016	1.024	1.1%
35	0.295	0.048	0.943	0.950	-6.2%
36	1.044	0.033	1.001	1.009	-0.4%
37	2.001	0.038	1.027	1.035	2.2%
38	0.405	0.010	0.991	0.999	-1.4%

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES		CREDIBILITY		
TYPE OF POLICY	FORMULA RELATIVITY	CREDIBILITY	WEIGHTED RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	1.390	0.032	1.011	1.014	
31	0.960	0.007	1.000	1.003	-1.1%
32	0.872	0.018	0.998	1.001	-1.3%
33	0.782	0.014	0.997	1.000	-1.4%
34	1.127	0.049	1.006	1.009	-0.5%
35	0.863	0.059	0.991	0.995	-1.9%
36	0.674	0.033	0.987	0.990	-2.4%
37	0.378	0.021	0.980	0.983	-3.1%
38	2.962	0.011	1.012	1.015	0.1%
CATEGORY					
1	1.100	0.315	1.030	1.011	
2	0.840	0.017	0.997	0.978	
3	0.993	0.011	1.000	0.981	
4	0.665	0.022	0.991	0.973	
5	0.680	0.015	0.994	0.976	
6	0.688	0.009	0.997	0.978	
7	1.049	0.005	1.000	0.982	
8	1.012	0.030	1.000	0.982	
9	0.884	0.016	0.998	0.979	
10	1.667	0.007	1.004	0.985	
11	0.658	0.020	0.992	0.973	
12	0.673	0.029	0.989	0.970	
13	0.572	0.016	0.991	0.973	
14	0.361	0.016	0.984	0.965	

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
 BASIC GROUP I RELATIVITY ANALYSIS  
 SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
-----				
ENTIRE STATE				
10 MONOLINE	824,431	4,642,356	1.076	1.117
31 MULTILINE MOTEL/HOTEL	205,672	1,218,033	0.065	0.067
32 MULTILINE APARTMENT	288,773	1,428,271	1.129	1.172
33 MULTILINE OFFICE	155,546	633,790	0.219	0.227
34 MULTILINE MERCANTILE	764,601	4,491,041	1.408	1.462
35 MULTILINE INSTITUTIONAL	1,131,316	5,061,943	0.284	0.295
36 MULTILINE SERVICES	666,677	3,363,450	1.005	1.044
37 MULTILINE INDUST/PROCESS	695,213	3,918,415	1.927	2.001
38 MULTILINE CONTRACTORS	<u>194,595</u>	<u>1,023,997</u>	<u>0.390</u>	<u>0.405</u>
TOTAL ALL TOPS*	4,926,824	25,781,296	0.963	1.000

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
10 MONOLINE	01 BUILDINGS	137,560	816,191	2.025	1.828	1.575
	02 RES. APTS. AND COND	6,054	31,382	0.000	1.113	0.959
	03 OFFICES	7,049	37,161	0.000	1.104	0.951
	04 MERCANTILE - HIGH	12,248	72,790	0.532	1.206	1.039
	05 MERCANTILE - MEDIUM	4,526	29,581	0.007	1.117	0.962
	06 MERCANTILE - LOW	1,946	14,938	0.000	1.138	0.980
	07 MOTELS AND HOTELS	7,134	39,865	2.404	1.717	1.479
	08 INSTITUTIONAL - HIG	8,850	43,881	1.182	1.402	1.208
	09 INSTITUTIONAL - LOW	3,915	20,025	0.086	1.151	0.991
	10 INDUST-PROC - HIGH	1,477	10,934	3.301	1.892	1.630
	11 INDUST-PROC - LOW	16,583	65,698	0.000	1.063	0.916
	12 SERVICE - HIGH	16,193	64,358	0.460	1.194	1.028
	13 SERVICE - LOW	15,260	55,212	0.754	1.283	1.105
	14 CONTRACTORS	3,777	14,703	0.000	1.139	0.981
	TOTAL*	242,572	1,316,719	1.389	1.570	1.352
31 MULTILINE MOTEL/HOTEL	01 BUILDINGS	44,870	230,406	1.625	1.261	1.086
	07 MOTELS AND HOTELS	7,142	34,485	1.919	1.240	1.068
	TOTAL*	52,012	264,891	1.665	1.258	1.084
32 MULTILINE APARTMENT	01 BUILDINGS	101,130	505,873	1.188	1.146	0.987
	02 RES. APTS. AND COND	47,425	229,870	0.291	0.883	0.761
	TOTAL*	148,555	735,743	0.902	1.062	0.915
33 MULTILINE OFFICE	01 BUILDINGS	94,704	427,178	0.870	1.023	0.881
	03 OFFICES	27,809	125,200	0.540	0.991	0.854
	08 INSTITUTIONAL - HIG	78	180	0.000	0.977	0.842
	12 SERVICE - HIGH	9	9	0.000	0.978	0.842
	TOTAL*	122,600	552,567	0.795	1.016	0.875

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	267,714	1,475,543	1.689	1.482	1.276
	03 OFFICES	304	1,257	0.000	0.976	0.841
	04 MERCANTILE - HIGH	43,621	253,230	0.338	0.886	0.763
	05 MERCANTILE - MEDIUM	37,213	192,609	0.349	0.916	0.789
	06 MERCANTILE - LOW	23,048	123,248	0.240	0.926	0.798
	08 INSTITUTIONAL - HIG	26	131	0.000	0.977	0.842
	12 SERVICE - HIGH	1,897	7,024	0.000	0.971	0.836
	13 SERVICE - LOW	109	1,463	0.000	0.976	0.841
	14 CONTRACTORS	1,338	4,833	0.000	0.973	0.838
	TOTAL*	375,270	2,059,338	1.294	1.318	1.135
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	413,889	1,880,809	1.143	1.135	0.978
	03 OFFICES	230	1,978	0.000	0.976	0.841
	08 INSTITUTIONAL - HIG	90,224	412,439	0.936	1.049	0.904
	09 INSTITUTIONAL - LOW	49,361	213,779	0.379	0.915	0.788
	12 SERVICE - HIGH	50	192	0.000	0.977	0.842
	13 SERVICE - LOW	188	587	0.000	0.977	0.842
	14 CONTRACTORS	61	129	0.000	0.977	0.842
	TOTAL*	554,003	2,509,913	1.040	1.101	0.949
36 MULTILINE SERVICES	01 BUILDINGS	162,573	782,710	0.887	0.891	0.767
	03 OFFICES	159	687	0.000	0.830	0.715
	04 MERCANTILE - HIGH	367	3,653	0.000	0.781	0.673
	05 MERCANTILE - MEDIUM	409	1,328	0.000	0.819	0.705
	06 MERCANTILE - LOW	534	951	0.000	0.825	0.711
	08 INSTITUTIONAL - HIG	1,462	10,159	0.000	0.691	0.595
	09 INSTITUTIONAL - LOW	3,423	12,026	0.000	0.669	0.576
	11 INDUST-PROC - LOW	236	561	0.000	0.832	0.717
	12 SERVICE - HIGH	70,248	364,968	0.487	0.534	0.460
	13 SERVICE - LOW	30,337	180,306	0.140	0.288	0.248
	14 CONTRACTORS	252	2,129	0.000	0.805	0.693
	TOTAL*	270,000	1,359,478	0.677	0.726	0.625

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	110,234	533,610	0.460	0.495	0.426
	03 OFFICES	-	58	0.000	1.000	1.000
	04 MERCANTILE - HIGH	-	(1)	0.000	1.000	1.000
	10 INDUST-PROC - HIGH	18,520	99,947	0.701	0.774	0.667
	11 INDUST-PROC - LOW	38,261	238,720	0.212	0.319	0.275
	12 SERVICE - HIGH	-	3,010	0.000	1.000	1.000
	13 SERVICE - LOW	144	742	0.000	0.829	0.714
	14 CONTRACTORS	1,461	1,461	0.000	0.816	0.703
	TOTAL*	168,620	877,547	0.426	0.489	0.421
38 MULTILINE CONTRACTORS	01 BUILDINGS	47,346	237,110	4.388	3.895	3.355
	03 OFFICES	213	2,050	0.000	0.806	0.694
	04 MERCANTILE - HIGH	1	76	0.000	0.840	0.724
	12 SERVICE - HIGH	372	913	0.000	0.826	0.711
	14 CONTRACTORS	40,760	214,468	1.332	1.274	1.097
	TOTAL*	88,692	454,617	2.955	2.670	2.300
TOTAL ALL TOPS*	01 BUILDINGS	1,380,020	6,889,430	1.364	1.284	1.105
	02 RES. APTS. AND COND	53,479	261,252	0.258	0.909	0.783
	03 OFFICES	35,764	168,391	0.420	1.011	0.871
	04 MERCANTILE - HIGH	56,237	329,748	0.378	0.955	0.823
	05 MERCANTILE - MEDIUM	42,148	223,518	0.309	0.937	0.807
	06 MERCANTILE - LOW	25,528	139,137	0.217	0.940	0.810
	07 MOTELS AND HOTELS	14,276	74,350	2.162	1.478	1.273
	08 INSTITUTIONAL - HIG	100,640	466,790	0.943	1.075	0.926
	09 INSTITUTIONAL - LOW	56,699	245,830	0.336	0.916	0.789
	10 INDUST-PROC - HIGH	19,997	110,881	0.893	0.856	0.738
	11 INDUST-PROC - LOW	55,080	304,979	0.147	0.545	0.470
	12 SERVICE - HIGH	88,769	440,474	0.469	0.665	0.573
	13 SERVICE - LOW	46,038	238,310	0.342	0.624	0.537
	14 CONTRACTORS	47,649	237,723	1.139	1.238	1.066
	TOTAL*	2,022,324	10,130,813	1.104	1.161	1.000

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA

BASIC GROUP II RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ACCIDENT YEAR ENDING 12/31/19 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	ACCIDENT YEARS 2010 - 2019 EXPER. RATIO AT CURRENT PMF	FORMULA RELATIVITY (2)/ 1.045	CREDIBILITY C	CREDIBILITY WEIGHTED RELATIVITY D	BALANCED FORMULA RELATIVITY E	NORMALIZED FORMULA RELATIVITY F	INDICATED CHANGE
	-----	-----	-----	-----	-----	-----	-----	-----
MONOLINE	1,033,045	1.2290	1.1760	0.1870	1.033	1.0330	1.0425	
MULTILINE	7,437,751	1.0200	0.9760	0.6150	0.985	0.9850	0.9940	
	-----	-----	-----	-----	-----	-----	-----	
COVERAGE	8,470,796	1.0450	1.0000			0.9909	0.9999	
MULTILINE TOP								
31 MOTEL/HOTEL	212,965	1.5280	1.4620	0.0490	1.023	1.0170	1.0263	-1.6%
32 APARTMENT	572,907	1.2370	1.1840	0.1250	1.023	1.0170	1.0263	-1.6%
33 OFFICE	468,248	0.6590	0.6310	0.0780	0.971	0.9650	0.9739	-6.6%
34 MERCANTILE	1,394,685	1.1550	1.1050	0.2480	1.026	1.0200	1.0294	-1.3%
35 INSTITUTIONAL	2,821,795	0.9560	0.9150	0.3470	0.971	0.9650	0.9739	-6.6%
36 SERVICES	1,262,918	0.9400	0.9000	0.2210	0.978	0.9720	0.9809	-5.9%
37 INDUST/PROCESS	359,453	1.2880	1.2330	0.0840	1.020	1.0140	1.0233	-1.8%
38 CONTRACTORS	344,780	0.8200	0.7850	0.0760	0.984	0.9780	0.9870	-5.3%
	-----	-----	-----	-----	-----	-----	-----	
	7,437,751	1.0200	0.9760		0.9910	0.9850	0.9940	

C - CREDIBILITY = P/(P+K) WHERE P REPRESENTS THE TOTAL 10 YEAR ADJUSTED LOSS COSTS AND K = 45,000,000

D - (5) = (3) \* (4) + (1.000 - (4))

E - FOR UNCAPPED MULTILINE TOPS: (6) = (5) \* (0.985/0.991)

FOR CAPPED MULTILINE TOPS: (6) = (1.033) \* (7) / (1.0425)

F - (7) = (6) / 0.9909

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA

COMMERCIAL I.M. RELATIVITY ANALYSIS

(1) TOP	(2) BALANCED RELATIVITY	(3) CURRENT IPMF	(4) INDICATED IPMF	(5) SELECTED IPMF
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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	RATING GROUP	(1)	(2)	(3)	(4)
		2016 AGGREGATE LOSS COSTS	2012-2016 AGGREGATE LOSS COSTS	FIVE-YEAR EXP RATIO	RELATIVITY
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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY MULTILINE ## 3X & 7X	RATING GROUP	(1)	(2)	(3)	(4)
		2016 AGGREGATE LOSS COSTS	2012-2016 AGGREGATE LOSS COSTS	FIVE-YEAR EXP RATIO	RELATIVITY
	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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
COMMERCIAL INLAND MARINE RELATIVITY ANALYSIS  
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY TOTAL ALL TOPS#	(1)	(2)	(3)	(4)	
	RATING 2016 GROUP	AGGREGATE LOSS COSTS	2012-2016 AGGREGATE LOSS COSTS	FIVE-YEAR EXP RATIO RELATIVITY	
	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.

## REFLECTS CURRENT IPMF OF 0.910.

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
OWNERS, LANDLORDS AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	0.865	0.079	0.989	0.998	
31	2.660	0.060	1.060	1.070	7.2%
32	2.134	0.036	1.028	1.037	3.9%
33	1.210	0.072	1.014	1.023	2.5%
34	0.544	0.087	0.948	0.958	-4.0%
35	0.715	0.099	0.967	0.977	-2.1%
36	1.114	0.054	1.006	1.016	1.8%
CLASS GROUP					
1	1.463	0.033	1.013	1.018	
2	1.251	0.051	1.011	1.017	
3	2.443	0.070	1.065	1.071	
4	0.000	0.000	1.000	1.006	
5	4.795	0.015	1.024	1.028	
6	1.610	0.017	1.008	1.013	
7	0.301	0.053	0.938	0.945	
8	1.035	0.013	1.000	1.006	
9	0.794	0.070	0.984	0.990	
10	2.055	0.091	1.068	1.073	
11	0.601	0.041	0.979	0.985	
12	0.629	0.085	0.961	0.967	
13	0.393	0.024	0.978	0.984	
16	1.053	0.043	1.002	1.008	

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	1.005	0.091	1.000	1.000	
33	0.093	0.007	0.984	0.983	-1.7%
34	0.684	0.034	0.987	0.987	-1.3%
35	1.490	0.034	1.014	1.013	1.3%
36	1.936	0.053	1.036	1.035	3.5%
37	1.290	0.041	1.010	1.010	1.0%
38	0.946	0.115	0.994	0.993	-0.7%
CLASS GROUP					
30	0.636	0.035	0.984	0.987	
31	1.577	0.060	1.028	1.030	
32	1.027	0.119	1.003	1.005	
33	1.267	0.051	1.012	1.014	
34	1.336	0.064	1.019	1.021	
35	0.184	0.015	0.975	0.979	
36	0.773	0.032	0.992	0.994	
37	0.108	0.032	0.931	0.933	
38	0.042	0.022	0.933	0.935	

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
OWNERS, LANDLORDS, AND TENANTS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TERRITORY ALL		(1)	(2)	(3)	(4)	(5)	(6)
TYPE OF POLICY	CLASS GROUP	CALENDAR A.Y.E. 12/31/19 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015-2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	01 FOOD&BEV.(RETAIL)	\$14,963	\$100,227	4.107	3.882	5	1.017
	02 RESTAURANTS	\$49,969	\$272,592	0.277	0.261	8	1.015
	03 STORES	\$10,330	\$193,119	0.131	0.124	5	1.069
	04 VENDING & RENTAL	\$1,814	\$13,480	0.000	0.000	0	1.004
	05 FOOD & BEV. DIST.	\$2,845	\$10,373	0.000	0.000	0	1.026
	06 NON-FOOD&BEV.DIST	\$3,146	\$37,589	0.356	0.336	2	1.012
	07 CLUBS,AMSMT&SPRTS	\$100,277	\$409,333	0.333	0.315	21	0.943
	08 HEALTH CARE FACIL	\$272	\$2,639	0.000	0.000	0	1.004
	09 HOTELS AND MOTELS	\$34,996	\$348,294	0.963	0.910	22	0.988
	10 SCHLS & CHURCHES	\$57,879	\$197,523	1.526	1.442	15	1.071
	11 APARTMENTS	\$22,702	\$183,725	1.271	1.201	11	0.984
	12 BUILDINGS&OFFICES	\$68,189	\$368,470	0.633	0.598	19	0.966
	13 MISC. PREMISES	\$10,348	\$36,909	0.660	0.624	1	0.983
	16 GOVT SUBDIVISIONS	\$1,003	\$5,321	23.854	22.547	3	1.006
	TOTAL *	\$378,733	\$2,179,594	0.887		112	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$312,563	\$1,161,306	2.234	2.112	64	1.059
	TOTAL *	\$312,563	\$1,161,306	2.234		64	
32 MULT APARTMENT	11 APARTMENTS	\$64,612	\$276,912	1.103	1.043	19	1.022
	12 BUILDINGS&OFFICES	\$12,010	\$53,027	2.784	2.632	4	1.003
	TOTAL *	\$76,622	\$329,939	1.367		23	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$397,795	\$1,739,514	0.808	0.764	91	0.990
	13 MISC. PREMISES	\$2,426	\$8,311	0.101	0.096	2	1.007
	TOTAL *	\$400,221	\$1,747,825	0.804		93	
34 MULT MERCANTILE	01 FOOD&BEV.(RETAIL)	\$90,942	\$424,886	0.387	0.366	15	0.976
	02 RESTAURANTS	\$306,847	\$1,262,089	0.861	0.814	39	0.975
	03 STORES	\$71,735	\$463,277	1.242	1.174	64	1.026
	04 VENDING & RENTAL	\$2,995	\$14,255	0.000	0.000	0	0.964
	05 FOOD & BEV. DIST.	\$3,947	\$36,528	5.924	5.599	4	0.985
	06 NON-FOOD&BEV.DIST	\$20,054	\$95,485	1.103	1.042	3	0.971
	12 BUILDINGS&OFFICES	\$82,544	\$268,549	0.288	0.272	11	0.927
	TOTAL *	\$579,064	\$2,565,069	0.791		136	

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
OWNERS, LANDLORDS, AND TENANTS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TERRITORY ALL		(1)	(2)	(3)	(4)	(5)	(6)
TYPE OF POLICY	CLASS GROUP	CALENDAR A.Y.E. 12/31/19 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015-2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
35 MULT INSTITUT.	07 CLUBS,AMSMT&SPRTS	\$25,890	\$129,412	0.207	0.196	8	0.923
	08 HEALTH CARE FACIL	\$17,656	\$83,576	0.826	0.780	3	0.983
	10 SCHLS & CHURCHES	\$325,031	\$1,651,781	1.626	1.536	133	1.048
	12 BUILDINGS&OFFICES	\$674	\$3,327	0.000	0.000	0	0.945
	13 MISC. PREMISES	\$1,708	\$9,028	0.142	0.134	2	0.961
	16 GOVT SUBDIVISIONS	\$191,923	\$861,018	0.677	0.640	31	0.984
	TOTAL *	\$562,882	\$2,738,142	1.205		177	
	36 MULT SERVICES	03 STORES	\$17,799	\$42,728	4.765	4.504	20
04 VENDING & RENTAL		\$5,337	\$28,653	0.000	0.000	0	1.021
07 CLUBS,AMSMT&SPRTS		\$234,582	\$733,050	0.332	0.314	21	0.959
08 HEALTH CARE FACIL		\$410	\$2,157	0.000	0.000	0	1.022
09 HOTELS AND MOTELS		\$11,148	\$49,275	0.190	0.180	2	1.005
10 SCHLS & CHURCHES		\$1,149	\$2,277	0.000	0.000	0	1.090
12 BUILDINGS&OFFICES		\$21,718	\$106,410	0.060	0.057	5	0.982
13 MISC. PREMISES		\$13,728	\$77,212	0.327	0.309	5	1.000
TOTAL *		\$305,871	\$1,041,762	0.558		53	
TOTAL ALL TOP	01 FOOD&BEV.(RETAIL)	\$105,905	\$525,113	0.913		20	
	02 RESTAURANTS	\$356,816	\$1,534,681	0.780		47	
	03 STORES	\$99,864	\$699,124	1.755		89	
	04 VENDING & RENTAL	\$10,146	\$56,388	0.000		0	
	05 FOOD & BEV. DIST.	\$6,792	\$46,901	3.442		4	
	06 NON-FOOD&BEV.DIST	\$23,200	\$133,074	1.001		5	
	07 CLUBS,AMSMT&SPRTS	\$360,749	\$1,271,795	0.323		50	
	08 HEALTH CARE FACIL	\$18,338	\$88,372	0.795		3	
	09 HOTELS AND MOTELS	\$358,707	\$1,558,875	2.046		88	
	10 SCHLS & CHURCHES	\$384,059	\$1,851,581	1.606		148	
	11 APARTMENTS	\$87,314	\$460,637	1.147		30	
	12 BUILDINGS&OFFICES	\$582,930	\$2,539,297	0.726		130	
	13 MISC. PREMISES	\$28,210	\$131,460	0.418		10	
	16 GOVT SUBDIVISIONS	\$192,926	\$866,339	0.797		34	
TOTAL *	\$2,615,956	\$11,763,637	1.058		658		

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

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/19 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015-2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	30 SERVICE	\$19,312	\$122,147	0.096	0.123	3	0.987
	31 LIGHT CONTRACTING	\$75,656	\$328,178	1.569	1.997	17	1.03
	32 MEDIUM CONTRACTING	\$496,233	\$2,159,664	0.659	0.839	77	1.005
	33 HEAVY CONTRACTING	\$160,168	\$800,478	1.386	1.764	18	1.014
	34 DEALER OR DISTRIB	\$135,639	\$827,010	0.469	0.597	13	1.021
	35 LGT. MANUFACTURER	\$19,554	\$70,406	0.138	0.175	1	0.978
	36 MED. MANUFACTURER	\$43,456	\$334,445	2.06	2.622	5	0.994
	37 HVY. MANUFACTURER	\$40,966	\$192,315	0.336	0.428	11	0.933
	38 MISC. OPERATION	\$24,428	\$117,518	0.163	0.207	3	0.935
	TOTAL *	\$1,015,412	\$4,952,161	0.83		148	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$496	\$2,729	1.509	1.921	1	1.012
	32 MEDIUM CONTRACTING	\$1,054	\$4,901	0	0	0	0.988
	33 HEAVY CONTRACTING	\$6,397	\$25,035	0	0	0	0.997
	38 MISC. OPERATION	\$6,110	\$38,824	0	0	0	0.919
	TOTAL *	\$14,057	\$71,489	0.053		1	
34 MULT MERCANTILE	30 SERVICE	\$8,157	\$32,187	0.666	0.847	2	0.974
	32 MEDIUM CONTRACTING	\$7,576	\$48,140	0	0	0	0.992
	34 DEALER OR DISTRIB	\$126,525	\$691,854	0.725	0.923	18	1.007
	38 MISC. OPERATION	\$1,820	\$10,009	0.41	0.522	1	0.922
	TOTAL *	\$144,078	\$782,190	0.679		21	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$364	\$1,988	3.843	4.891	2	1.043
	32 MEDIUM CONTRACTING	\$51,732	\$254,181	1.188	1.512	19	1.018
	TOTAL *	\$52,096	\$256,169	1.207		21	
36 MULT SERVICES	30 SERVICE	\$5,339	\$26,359	0.11	0.14	1	1.021
	31 LIGHT CONTRACTING	\$8,846	\$76,707	0.184	0.235	1	1.066
	32 MEDIUM CONTRACTING	\$12,869	\$101,968	0.008	0.011	1	1.041
	33 HEAVY CONTRACTING	\$16,681	\$74,929	0.033	0.042	1	1.05
	34 DEALER OR DISTRIB	\$45,118	\$205,412	3.805	4.843	42	1.057
	36 MED. MANUFACTURER	\$1,006	\$19,807	0	0	0	1.029
	38 MISC. OPERATION	\$140,679	\$632,065	0.043	0.054	5	0.967
	TOTAL *	\$230,538	\$1,137,247	0.783		51	

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
MANUFACTURERS AND CONTRACTORS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/19 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015-2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
37 MULT INDUST/PROC	32 MEDIUM CONTRACTING	\$30,192	\$140,002	0.429	0.546	3	1.015
	33 HEAVY CONTRACTING	\$10,233	\$44,173	10.257	13.054	2	1.024
	34 DEALER OR DISTRIB	\$962	\$7,032	0.042	0.054	1	1.031
	35 LGT. MANUFACTURER	\$20,723	\$78,776	0.193	0.246	3	0.988
	36 MED. MANUFACTURER	\$108,943	\$745,601	0.216	0.275	14	1.004
	37 HVY. MANUFACTURER	\$135,535	\$665,349	0.033	0.043	8	0.942
	38 MISC. OPERATION	\$2,100	\$12,510	0	0	0	0.944
	TOTAL *	\$308,688	\$1,693,443	0.486		31	
38 MULT CONTRACTORS	30 SERVICE	\$113,659	\$619,289	0.559	0.711	16	0.98
	31 LIGHT CONTRACTING	\$236,677	\$1,151,679	1.146	1.459	44	1.023
	32 MEDIUM CONTRACTING	\$783,885	\$3,750,040	0.915	1.165	153	0.998
	33 HEAVY CONTRACTING	\$201,137	\$1,031,277	0.339	0.431	26	1.007
	38 MISC. OPERATION	\$25,036	\$63,786	0	0	0	0.928
	TOTAL *	\$1,360,394	\$6,616,071	0.823		239	
TOTAL ALL TOP	30 SERVICE	\$146,467	\$799,982	0.487		22	
	31 LIGHT CONTRACTING	\$322,039	\$1,561,281	1.223		65	
	32 MEDIUM CONTRACTING	\$1,383,541	\$6,458,896	0.809		253	
	33 HEAVY CONTRACTING	\$394,616	\$1,975,892	1.003		47	
	34 DEALER OR DISTRIB	\$308,244	\$1,731,308	1.061		74	
	35 LGT. MANUFACTURER	\$40,277	\$149,182	0.166		4	
	36 MED. MANUFACTURER	\$153,405	\$1,099,853	0.737		19	
	37 HVY. MANUFACTURER	\$176,501	\$857,664	0.104		19	
	38 MISC. OPERATION	\$200,173	\$874,712	0.054		9	
TOTAL *	\$3,125,263	\$15,508,770	0.786		512		

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	0.928	0.343	0.975	0.975	
34	1.065	0.358	1.023	1.023	4.9%
36	1.147	0.179	1.025	1.025	5.1%
37	1.002	0.474	1.001	1.001	2.7%
CLASS GROUP					
3	1.020	0.457	1.009	1.013	
4	0.934	0.390	0.974	0.977	
5	1.299	0.127	1.034	1.037	
6	1.020	0.312	1.006	1.010	
7	0.986	0.168	0.998	1.001	

NOTE: THE INDICATED CHANGES BY TOP WERE FURTHER ADJUSTED BY THE FOLLOWING

DIFFERENTIALS: TOP 34: 1.018

TOP 36: 1.020

TOP 37: 0.989

INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
PRODUCTS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2019 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015 - 2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	03 MAN,DLR,DSTFD/DRG	13,750,935	66,100,554	0.988	0.977	1,263	0.987
	04 DLR,DST-NOTFD/DRG	8,477,615	41,310,448	0.911	0.900	460	0.952
	05 MAN.NTFD/DRG(Low)	1,472,878	6,420,923	1.025	1.013	73	1.011
	06 MAN.NTFD/DRG(MED)	9,010,398	41,539,850	0.977	0.966	500	0.984
	07 MAN.NTFD/DRG(HGH)	2,241,335	11,290,085	0.650	0.643	59	0.976
	TOTAL *	34,953,161	166,661,860	0.947		2,355	
34 MULT MERCANTILE	03 MAN,DLR,DSTFD/DRG	4,329,151	22,382,753	1.183	1.169	619	1.036
	04 DLR,DST-NOTFD/DRG	27,418,064	130,792,947	0.993	0.982	1,940	1.000
	06 MAN.NTFD/DRG(MED)	8,530	45,329	0.000	0.000	-	1.033
	TOTAL *	31,755,745	153,221,029	1.019		2,559	
36 MULT SERVICES	04 DLR,DST-NOTFD/DRG	3,121,637	14,216,143	1.102	1.090	644	1.002
	06 MAN.NTFD/DRG(MED)	48,702	226,631	0.000	0.000	-	1.035
	TOTAL *	3,170,339	14,442,774	1.085		644	
37 MULT INDUST/PROC.	03 MAN,DLR,DSTFD/DRG	12,807,039	61,610,215	0.973	0.962	2,291	1.014
	05 MAN.NTFD/DRG(Low)	3,340,860	17,802,968	1.402	1.386	250	1.039
	06 MAN.NTFD/DRG(MED)	26,492,844	125,759,189	1.030	1.018	1,448	1.011
	07 MAN.NTFD/DRG(HGH)	6,306,324	31,298,086	1.098	1.085	508	1.002
	TOTAL *	48,947,067	236,470,458	1.049		4,497	
TOTAL ALL TOP	03 MAN,DLR,DSTFD/DRG	30,887,125	150,093,522	1.009		4,173	
	04 DLR,DST-NOTFD/DRG	39,017,316	186,319,538	0.984		3,044	
	05 MAN.NTFD/DRG(Low)	4,813,738	24,223,891	1.287		323	
	06 MAN.NTFD/DRG(MED)	35,560,474	167,570,999	1.015		1,948	
	07 MAN.NTFD/DRG(HGH)	8,547,659	42,588,171	0.980		567	
	TOTAL *	118,826,312	570,796,121	1.012		10,055	

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

INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

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TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	1.013	0.781	1.010	1.009	
34	1.059	0.502	1.029	1.028	1.9%
36	0.921	0.535	0.957	0.956	-5.3%
37	1.062	0.143	1.009	1.008	-0.1%
38	0.996	0.991	0.996	0.995	-1.4%
CLASS					
GROUP					
1	0.808	0.501	0.899	0.894	
2	0.989	0.512	0.994	0.989	
11	1.091	0.353	1.031	1.026	
12	1.018	1.000	1.018	1.012	
13	0.823	0.264	0.950	0.945	

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

STATE	(1)	(2)	(3)	(4)
	BAILEY FORMULA RELATIVITY	CREDIBILITY	CREDIBILITY WEIGHTED RELATIVITY	BALANCED RELATIVITY
	1.280	0.407	1.106	1.105
	1.226	0.480	1.103	1.103
	1.218	0.458	1.094	1.094
	1.437	0.240	1.091	1.091
	1.303	0.278	1.076	1.076
	1.118	0.581	1.067	1.067
	1.360	0.161	1.051	1.050
	1.190	0.265	1.047	1.047
	1.208	0.202	1.039	1.039
	1.362	0.116	1.036	1.036
	1.077	0.482	1.036	1.036
	1.171	0.145	1.023	1.023
	1.102	0.196	1.019	1.019
	1.048	0.380	1.018	1.018
	1.050	0.362	1.018	1.017
	1.051	0.299	1.015	1.015
	1.047	0.330	1.015	1.015
	1.077	0.174	1.013	1.013
	1.048	0.250	1.012	1.011
	1.031	0.324	1.010	1.009
	1.049	0.135	1.006	1.006
	1.010	0.415	1.004	1.004
	1.020	0.177	1.003	1.003
	1.007	0.567	1.004	1.003
South Dakota	1.020	0.155	1.003	1.003
	1.025	0.098	1.002	1.002
	0.992	0.454	0.996	0.996
	0.989	0.469	0.995	0.995
	0.975	0.380	0.990	0.990
	0.935	0.230	0.985	0.984
	0.888	0.133	0.984	0.984
	0.926	0.238	0.982	0.982
	0.971	0.595	0.983	0.982
	0.684	0.055	0.979	0.979
	0.895	0.190	0.979	0.979
	0.930	0.383	0.973	0.972
	0.812	0.165	0.966	0.966
	0.866	0.237	0.967	0.966
	0.734	0.160	0.952	0.951
	0.859	0.336	0.950	0.950
	0.896	0.470	0.950	0.949
	0.876	0.406	0.948	0.947
	0.918	0.645	0.946	0.946
	0.887	0.489	0.943	0.943
	0.776	0.230	0.943	0.943
	0.822	0.300	0.943	0.943
	0.796	0.267	0.941	0.941
	0.088	0.035	0.919	0.918
	0.644	0.196	0.917	0.917
	0.757	0.314	0.916	0.916
	0.796	0.387	0.916	0.915
	0.619	0.293	0.869	0.869

\* Sorted by balanced relative change

## INSURANCE SERVICES OFFICE, INC.

SOUTH DAKOTA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/19 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015-2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	\$4,892	\$19,677	0.000	0.000	0	0.905
	02 RET.STRS-NTFD/DRG	\$6,581	\$39,324	0.447	0.411	3	1.001
	11 COMP. OPS. (LOW)	\$6,798	\$40,556	0.376	0.347	1	1.038
	12 COMP. OPS. (MED)	\$374,015	\$1,750,422	0.695	0.639	17	1.024
	13 COMP. OPS. (HGH)	\$37,100	\$134,499	0.000	0.000	0	0.956
	TOTAL *	\$429,386	\$1,984,478	0.618		21	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$35,512	\$154,896	0.006	0.005	1	0.922
	02 RET.STRS-NTFD/DRG	\$26,559	\$129,495	0.618	0.569	3	1.020
	12 COMP. OPS. (MED)	\$9,561	\$38,152	0.000	0.000	0	1.044
	TOTAL *	\$71,632	\$322,543	0.232		4	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$828	\$6,437	0.000	0.000	0	0.857
	02 RET.STRS-NTFD/DRG	\$62,199	\$200,325	1.479	1.361	15	0.948
	11 COMP. OPS. (LOW)	\$7,272	\$40,042	0.243	0.224	1	0.983
	12 COMP. OPS. (MED)	\$5,948	\$38,162	5.461	5.026	5	0.970
	13 COMP. OPS. (HGH)	\$14,485	\$59,323	0.366	0.337	1	0.906
	TOTAL *	\$90,732	\$344,289	1.450		22	
37 MULT INDUST/PROC.	11 COMP. OPS. (LOW)	\$72	\$318	0.000	0.000	0	1.036
	12 COMP. OPS. (MED)	\$20,198	\$98,486	0.134	0.124	1	1.023
	TOTAL *	\$20,270	\$98,804	0.134		1	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$26,770	\$115,657	1.353	1.245	2	1.024
	12 COMP. OPS. (MED)	\$791,100	\$4,164,917	1.383	1.273	77	1.010
	13 COMP. OPS. (HGH)	\$97,583	\$589,895	1.378	1.268	6	0.943
	TOTAL *	\$915,453	\$4,870,469	1.382		85	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$41,232	\$181,010	0.005		1	
	02 RET.STRS-NTFD/DRG	\$95,339	\$369,144	1.168		21	
	11 COMP. OPS. (LOW)	\$40,912	\$196,573	0.991		4	
	12 COMP. OPS. (MED)	\$1,200,822	\$6,090,139	1.157		100	
	13 COMP. OPS. (HGH)	\$149,168	\$783,717	0.937		7	
	TOTAL *	\$1,527,473	\$7,620,583	1.101		133	

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

INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
 LOCAL PRODUCTS/COMPLETED OPERATIONS  
 SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2019 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015 - 2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	2,438,315	11,481,124	0.912		601	
	02 RET.STRS-NTFD/DRG	2,987,973	14,421,548	1.083		495	
	11 COMP. OPS. (LOW)	5,121,852	24,832,256	1.466		645	
	12 COMP. OPS. (MED)	99,545,324	453,611,463	1.119		7,145	
	13 COMP. OPS. (HGH)	7,985,186	36,362,548	0.800		270	
	TOTAL *	118,078,650	540,708,939	1.107		9,156	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	8,416,670	39,973,133	0.852		2,982	
	02 RET.STRS-NTFD/DRG	5,558,740	26,332,002	1.248		672	
	12 COMP. OPS. (MED)	2,448,906	11,647,654	1.126		132	
	TOTAL *	16,424,316	77,952,789	1.027		3,786	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	848,644	4,334,228	1.308		191	
	02 RET.STRS-NTFD/DRG	14,186,650	58,805,129	0.951		2,767	
	11 COMP. OPS. (LOW)	3,222,726	15,414,850	1.074		482	
	12 COMP. OPS. (MED)	4,896,101	24,401,807	1.098		800	
	13 COMP. OPS. (HGH)	1,067,475	5,473,142	0.781		63	
	TOTAL *	24,221,596	108,429,156	1.002		4,303	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	18,708	99,531	0.356		1	
	11 COMP. OPS. (LOW)	112,068	571,925	1.066		19	
	12 COMP. OPS. (MED)	3,758,700	19,361,968	1.170		289	
	13 COMP. OPS. (HGH)	42,554	250,368	0.000		0	
	TOTAL *	3,932,030	20,283,792	1.150		309	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	10,091,456	49,007,588	1.071		731	
	12 COMP. OPS. (MED)	164,631,197	819,983,232	1.102		13,301	
	13 COMP. OPS. (HGH)	14,387,699	69,460,015	0.947		720	
	TOTAL *	189,110,352	938,450,835	1.089		14,752	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	11722337	55888016	0.896		3,775	
	02 RET.STRS-NTFD/DRG	22,733,363	99,558,679	1.041		3,934	
	11 COMP. OPS. (LOW)	18,548,102	89,826,619	1.180		1,877	
	12 COMP. OPS. (MED)	275,280,228	1,329,006,124	1.109		21,667	
	13 COMP. OPS. (HGH)	23,482,914	111,546,073	0.888		1,053	
	TOTAL *	351,766,944	1,685,825,511	1.087		32,306	

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

COMMERCIAL PACKAGE POLICY

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SECTION C - REVISED CLM DIVISION NINE

Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1) ..... C-2

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

**SOUTH DAKOTA (40)**

**PACKAGE MODIFICATION FACTORS**

<b>Package Modification Assignment (PMA)</b>	<b>Premium From CLM Division</b>			
	<b>Two</b>	<b>Three, Four, Five, Eight  Property</b>	<b>Four, Six  Liability</b>	<b>All Other Divisions</b>
Apartment House	.90	.90	1.00	1.00
Contractors	.90	.98	.94	1.00
Industrial & Processing	.90	.66	1.00	1.00
Institutional	.90	.77	.99	1.00
Mercantile	.90	.86	.99	1.00
Motel/Hotel	.90	1.00	1.00	1.00
Office	.90	.91	1.00	1.00
Service	.90	.97	1.00	1.00

**Table 1. Package Modification Factors**