

RULES – IMPLEMENTATION

SEPTEMBER 19, 2024

COMMERCIAL MULTIPLE LINE

LI-ML-2024-039

## INDIANA 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 **8.0%** to be implemented.

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### BACKGROUND

In circular [LI-ML-2024-021](#), 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-2024-RLA1](#), which presents a review of Commercial Package Policy modification factors experience.

Refer to the attachment(s) for complete details.

*For more information on the status of filings in a particular state, including filed and approved documents, associated circulars and links to Print Ready Manuals and Commercial Lines Manual, please feel free to access our [Filings](#) feature within the ISOnet Circulars product.*

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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 February 1, 2025.

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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 DECEMBER 31, 2024. 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-2024-RLA1](#) and SERFF Tracking Number [ISOFG134241957](#), 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-2024-016](#) 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 2-25 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

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## REFERENCE(S)

- [LI-ML-2024-021](#) (07/16/2024) Commercial Package Policy Experience Reviewed By Staff
- [LI-CL-2024-016](#) (03/12/2024) Commercial Lines Revised Lead Time Requirements Listing

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## [ATTACHMENT\(S\)](#)

Filing [ML-2024-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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INDIANA  
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW  
COMMERCIAL PACKAGE POLICY  
ML-2024-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.

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PMF CHANGES

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

<u>Type of Policy</u>	<u>Property</u>	<u>Liability</u>	<u>Prop. &amp; Liab. Total</u>
Motel/Hotel	0.0%	0.0%	0.0%
Apartment	0.0%	0.0%	0.0%
Office	7.5%	-4.2%	1.4%
Mercantile	2.0%	8.7%	4.9%
Institutional	23.5%	-7.1%	15.2%
Services	0.0%	0.0%	0.0%
Indust./Proc.	20.8%	0.0%	12.2%
Contractors	<u>1.0%</u>	<u>2.3%</u>	<u>2.1%</u>
Statewide	12.6%	2.3%	8.0%

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# INDIANA

## ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

### COMMERCIAL PACKAGE POLICY

ML-2024-RLA1

#### EXECUTIVE SUMMARY

##### 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.

##### HISTORICAL SOURCE DATA

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

- Basic Group I: five fiscal accident years ending 9/30/22.
- Basic Group II: ten fiscal accident years ending 9/30/22.
- Special Causes of Loss: five fiscal accident years ending 9/30/22.
- Crime: calendar year ending 06/30/22.
- Inland Marine: five calendar accident years ending 12/31/16.
- Fidelity: policy year ending 12/31/21.
- Owners, Landlords, and Tenants: five fiscal accident years ending 9/30/22.
- Manufacturers and Contractors: five fiscal accident years ending 9/30/22.
- Products: three calendar accident years ending 12/31/21.
- Local Products and Completed Operations: three calendar accident years ending 12/31/21.

##### PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Filing</u>	ML-2022-RLA1	ML-2018-RLA1	ML-2017-RLA1
<u>Dates</u>			
Implemented	1/1/2023	6/1/2019	5/1/2018
<u>Changes</u>			
Indicated	-0.6%	0.1%	1.5%
Filed	-0.6%	0.1%	1.5%
Implemented	-0.6%	0.1%	1.5%

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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 12/31/21 for the Annual Statement Line of Business (ASLOB) indicated.

COMMERCIAL MULTI PERIL (ASLOB 51 & 52)

1. Cincinnati Insurance Company
  2. Travelers Indemnity Company
  3. Insurance Company Of North America
  4. American International Group
  5. Liberty Mutual Insurance Company
  6. Hanover Insurance Company
  7. Continental Casualty Company
  8. Tokio Marine Companies
  9. Westfield Insurance Company
  10. Nationwide 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 12/31/2021 is:

Commercial Multi Peril (ASLOB 51 & 52). 42.9%.

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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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INDIANA  
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW  
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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

### SECTION A: SCOPE OF REVISION METHODOLOGY OVERVIEW

OBJECTIVE	<p>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 <u>relative to</u> that for monoline policies providing the same coverages.</p>
STEP 1: THE RELATIVITY ANALYSES	<p>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.</p>
STEP 2: CALCULATION OF THE PMFs	<p>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.</p>

## COMMERCIAL PACKAGE POLICY

### SECTION A: SCOPE OF REVISION

#### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

**OBJECTIVE** 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.

The types of insured which can be written under a CPP are generally categorized into the following Types of Policy:

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

**PRICING OF POLICIES** 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.

**CPP PMF REVIEW PROCEDURE** 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).

A detailed explanation of the calculation of the revised PMFs follows.

## COMMERCIAL PACKAGE POLICY

### SECTION A: SCOPE OF REVISION

#### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

##### 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.

## COMMERCIAL PACKAGE POLICY

### SECTION A: SCOPE OF REVISION

#### CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

##### 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) in column (4) are subject to minimum and maximum values and adjusted in column (5) so that they average to the proposed PMF shown at the bottom of column (5).

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

OBJECTIVE	<p>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:</p> <ol style="list-style-type: none"><li>(1) determine monoline classification and territorial loss cost level needs for Basic Group I;</li><li>(2) determine monoline category loss cost level need for Special Causes of Loss;</li><li>(3) determine indicated changes to the eight property CPP Package Modification Factors based on Basic Group I/Special Causes of Loss experience.</li></ol>
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COLUMN (1)	<p><u>LEAST SQUARES FORMULA RELATIVITIES</u></p> <p>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).</p> <p>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.</p>
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## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

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:

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

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

SPECIAL CAUSES OF LOSS:

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

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

- $TOP_i$  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;

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

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.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

##### 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-B2.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP I RELATIVITY ANALYSIS SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B3)

**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.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B4)

##### INTRODUCTION

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.

##### COLUMN (1)

##### AGGREGATE LOSS COSTS

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.

##### 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 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).

##### COLUMN (4)

##### CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO

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

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B4)

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.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP II RELATIVITY ANALYSIS (EXHIBIT B5)

OBJECTIVE	<p>The explanations which follow clarify Exhibit B5, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:</p> <ol style="list-style-type: none"><li>(1) determine the monoline loss cost level need;</li><li>(2) determine indicated changes to the eight property Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Basic Group II experience.</li></ol>
COLUMN (1)	<p><u>AGGREGATE LOSS COSTS</u></p> <p>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.</p>
COLUMN (2)	<p><u>10 - YEAR EXPERIENCE RATIO</u></p> <p>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.</p>
COLUMN (3)	<p><u>FORMULA RELATIVITY</u></p> <p>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.</p>

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE BASIC GROUP II RELATIVITY ANALYSIS (EXHIBIT B5)

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.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES  
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE  
BASIC GROUP II RELATIVITY ANALYSIS (EXHIBIT B5)

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.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: CRIME, FIDELITY, AND INLAND MARINE

#### Crime and Fidelity

The reviews for Crime (Burglary and Theft) and for Fidelity are performed on a multistate basis, combining both multiline and monoline experience. 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.

#### Inland Marine

A simultaneous review procedure had been performed in the past to calculate indicated IPMFs for Inland Marine. Beginning with this review, the IPMFs for Inland Marine are being frozen at 0.910 since the results of the simultaneous review procedure were not used to calculate monoline loss cost level changes and the IPMFs have little impact, or weight, in the calculation of the overall Property PMFs. Indications for Inland Marine are to bring the current IPMFs to the 0.910 level.

## COMMERCIAL PACKAGE POLICY

### SECTION B: CALCULATION OF PROPOSED CHANGES LIABILITY COVERAGES: GENERAL LIABILITY

#### DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

OBJECTIVES	<p>The objectives of this procedure are to:</p> <ol style="list-style-type: none"><li>1) determine monoline loss cost level needs for the appropriate rating variables;</li><li>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.</li></ol>
EXPERIENCE BASE	<p>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. ALCCL have been trended.</p>
SIMULTANEOUS DETERMINATION OF RATING VARIABLE RELATIVITIES	<p>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.</p> <p>The purpose of a simultaneous review procedure is to arrive at a set of relativities for each rating variable that best represent the experience. For example, the type of policy relativities will serve to derive the relationship of CPP policies relative to monoline policies, via the PMF, while the class group and territory (if applicable) relativities will serve to derive the relationship of the various classification and territories relative to one another. An iterative technique is used to derive relativities for each rating variable. This procedure is in contrast to a one-way type of review, wherein relativities for each rating variable would each be reviewed separately.</p> <p>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.</p>

RATING  
VARIABLES  
USED

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

Manufacturers and Contractors -	Type of policy and Class group
Owners, Landlords and Tenants -	Type of policy, Territory and Class group
Products -	Type of policy and Class group
Local Products/Completed Operations-	Type of policy, State and Class group

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES  
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-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:

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

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

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

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

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

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

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

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

$r_{ijk}$  is the relative change for the  $i^{\text{th}}$  type of policy,  $j^{\text{th}}$  class group, and  $k^{\text{th}}$  territory;

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

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

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

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES  
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-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;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES  
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-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;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES  
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

ITERATIVE  
PROCEDURE  
(Cont'd)

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

APPLICATION OF  
CREDIBILITY

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

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

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

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

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

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

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

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

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

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

W is the credibility-weighted relativity.

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

INDICATED  
CHANGES

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

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

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES

LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

MULTILINE  
CONSIDERATIONS

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

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

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

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## INDIANA

COMMERCIAL PACKAGE POLICY  
SUMMARY OF THIS REVIEW

Type of Policy	<u>PROPERTY PMFS</u>			<u>LIABILITY PMFS</u>			<u>PROP. &amp; LIAB. TOTAL</u>
	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)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
Offices (33)	0.93	1.00	7.5%	0.96	0.92	-4.2%	1.4%
Mercantile (34)	0.98	1.00	2.0%	0.92	1.00	8.7%	4.9%
Institutional (35)	0.68	0.84	23.5%	0.84	0.78	-7.1%	15.2%
Services (36)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
Ind/Proc (37)	0.77	0.93	20.8%	0.87	0.87	0.0%	12.2%
Contractors (38)	0.99	1.00	1.0%	0.86	0.88	2.3%	2.1%
			-----				-----
Statewide			12.6%			2.3%	8.0%

INDIANA  
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) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	531,203	0.799	12.6%	0.900	0.834
Basic Group II	324,890	1.312	8.0%	1.417	1.313
Special Causes of Loss	182,560	1.316	1.7%	1.338	1.240
* Crime	1,200	0.898	0.0%	0.898	0.898
* Inland Marine	293	1.005	0.0%	1.005	0.910
* Fidelity	2,546	1.000	0.0%	1.000	1.000
Total	1,042,692	1.000	7.9%	1.079	1.000
Liability -					
OL&T	1,353,299	1.000	-6.2%	0.938	1.000
Total	1,353,299	1.000	-6.2%	0.938	1.000
Property & Liability Total	2,395,991		-0.1%		0.0%
Apartment (32) *****	(1) Aggregate Loss Costs	(2) Current Implicit PMF	(3) Net Indication	(4) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	8,054,174	0.760	26.1%	0.958	0.861
Basic Group II	5,826,709	1.457	2.0%	1.486	1.335
Special Causes of Loss	2,565,138	1.235	-3.9%	1.187	1.066
* Crime	556	0.898	0.0%	0.898	0.898
* Inland Marine	12,378	1.005	0.0%	1.005	0.910
* Fidelity	2,242	1.000	0.0%	1.000	1.000
Total	16,461,197	1.000	11.3%	1.113	1.000
Liability -					
OL&T	3,703,949	1.000	2.7%	1.027	1.000
Total	3,703,949	1.000	2.7%	1.027	1.000
Property & Liability Total	20,165,146		9.7%		0.0%

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

INDIANA  
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) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	2,592,668	0.899	10.9%	0.997	0.996
Basic Group II	1,875,782	0.845	1.5%	0.858	0.857
Special Causes of Loss	1,629,624	1.137	8.9%	1.238	1.237
* Crime	2,690	0.898	0.0%	0.898	0.898
* Inland Marine	110,903	1.005	0.0%	1.005	0.910
* Fidelity	18,292	1.000	0.0%	1.000	1.000
Total	6,229,959	0.930	7.8%	1.003	1.000
Liability -					
OL&T	6,281,568	0.970	-5.4%	0.918	0.925
M&C	595,908	0.845	-1.3%	0.834	0.841
Total	6,877,476	0.960	-5.3%	0.909	0.920
Property & Liability Total	13,107,435		0.9%		1.4%
Mercantile (34) *****	(1) Aggregate Loss Costs	(2) Current Implicit PMF	(3) Net Indication	(4) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	8,583,134	0.829	20.7%	1.001	0.905
Basic Group II	5,800,404	1.089	8.1%	1.177	1.065
Special Causes of Loss	4,245,798	1.189	10.7%	1.316	1.191
* Crime	57,255	0.898	0.0%	0.898	0.898
* Inland Marine	410,278	1.005	0.0%	1.005	0.910
* Fidelity	172,252	1.000	0.0%	1.000	1.000
Total	19,269,121	0.980	12.7%	1.104	1.000
Liability -					
OL&T	11,154,751	0.931	-2.3%	0.910	1.021
M&C	1,850,772	0.882	-2.5%	0.860	0.966
Local Product	317,781	0.856	0.0%	0.856	0.960
* Multi Product	1,528,553	0.889	1.5%	0.902	0.901
Total	14,851,857	0.920	-2.1%	0.901	1.000
Property & Liability Total	34,120,978		6.3%		4.9%

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

INDIANA  
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) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	4,018,755	0.600	13.0%	0.678	0.781
Basic Group II	4,534,074	0.655	7.7%	0.705	0.812
Special Causes of Loss	3,512,890	0.874	-3.1%	0.847	0.975
* Crime	67,090	0.898	0.0%	0.898	0.898
* Inland Marine	80,401	1.005	0.0%	1.005	0.910
* Fidelity	114,412	1.000	0.0%	1.000	1.000
Total	12,327,622	0.680	7.5%	0.731	0.840
Liability-					
OL&T	4,368,515	0.853	-7.4%	0.790	0.795
M&C	261,793	0.575	4.8%	0.603	0.607
Total	4,630,308	0.840	-7.8%	0.775	0.780
Property & Liability Total	16,957,930		3.3%		15.2%
Services (36) *****	(1) Aggregate Loss Costs	(2) Current Implicit PMF	(3) Net Indication	(4) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	4,784,268	0.883	23.4%	1.090	0.985
Basic Group II	4,152,215	1.159	7.0%	1.240	1.121
Special Causes of Loss	2,292,383	1.012	-7.0%	0.941	0.851
* Crime	64,979	0.898	0.0%	0.898	0.898
* Inland Marine	84,688	1.005	0.0%	1.005	0.910
* Fidelity	69,982	1.000	0.0%	1.000	1.000
Total	11,448,515	1.000	10.5%	1.105	1.000
Liability -					
OL&T	3,217,639	0.868	1.6%	0.882	0.864
M&C	3,192,157	1.098	4.3%	1.145	1.123
Local Product	994,432	1.224	-1.2%	1.209	1.185
* Multi Product	180,593	0.963	1.1%	0.974	0.974
Total	7,584,821	1.000	2.0%	1.020	1.000
Property & Liability Total	19,033,336		7.1%		0.0%

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

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

Industrial / Processing (37) *****	(1) Aggregate Loss <u>Costs</u>	(2) Current Implicit <u>PMF</u>	(3) Net <u>Indication</u>	(4) Indicated <u>PMF</u>	(5) Capped <u>PMF</u>
Coverage					
Property-					
Basic Group I	5,704,562	0.911	7.0%	0.975	1.123
Basic Group II	2,567,081	0.636	10.5%	0.703	0.809
Special Causes of Loss	1,611,736	0.605	-8.8%	0.552	0.635
* Crime	16,208	0.898	0.0%	0.898	0.898
* Inland Marine	25,902	1.005	0.0%	1.005	0.910
* Fidelity	110,138	1.000	0.0%	1.000	1.000
Total	10,035,627	0.770	4.6%	0.805	0.930
Liability-					
M&C	4,728,381	0.862	-1.9%	0.846	0.851
Local Product	125,699	0.588	-2.2%	0.575	0.578
* Multi Product	2,259,830	0.897	2.6%	0.920	0.920
Total	7,113,910	0.870	-1.0%	0.861	0.870
Property & Liability Total	17,149,537		2.3%		12.2%

  

Contractors (38) *****	(1) Aggregate Loss <u>Costs</u>	(2) Current Implicit <u>PMF</u>	(3) Net <u>Indication</u>	(4) Indicated <u>PMF</u>	(5) Capped <u>PMF</u>
Coverage					
Property-					
Basic Group I	1,282,197	0.800	13.3%	0.906	0.862
Basic Group II	1,107,096	1.095	7.2%	1.174	1.117
Special Causes of Loss	965,842	1.236	-3.4%	1.194	1.136
* Crime	10,072	0.898	0.0%	0.898	0.898
* Inland Marine	20,136	1.005	0.0%	1.005	0.910
* Fidelity	94,176	1.000	0.0%	1.000	1.000
Total	3,479,519	0.990	6.1%	1.050	1.000
Liability-					
M&C	12,226,094	0.958	1.5%	0.972	0.988
Local Product	7,810,889	0.737	-0.4%	0.734	0.746
Total	20,036,983	0.860	0.5%	0.864	0.880
Property & Liability Total	23,516,502		1.3%		2.1%

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

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

Statewide *****	(1) Aggregate Loss Costs	(2) Current Implicit PMF	(3) Net Indication	(4) Indicated PMF	(5) Capped PMF
<u>Coverage</u>					
Property-					
Basic Group I	35,550,961	0.799	18.1%	0.944	0.919
Basic Group II	26,188,251	0.958	6.2%	1.017	0.997
Special Causes of Loss	17,005,971	1.003	0.3%	1.006	0.993
* Crime	220,050	0.898	0.0%	0.898	0.898
* Inland Marine	744,979	1.005	0.0%	1.005	0.910
* Fidelity	584,040	1.000	0.0%	1.000	1.000
Total	80,294,252	0.850	15.1%	0.979	0.957
Liability -					
OL&T	30,079,721	0.930	-2.8%	0.904	0.945
M&C	22,855,105	0.936	0.8%	0.943	0.960
Local Product	9,248,801	0.771	-0.5%	0.767	0.779
* Multi Product	3,968,976	0.897	2.1%	0.916	0.915
Total	66,152,603	0.900	-0.5%	0.895	0.921
Property & Liability Total	146,446,855		8.1%		8.0%

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

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

Combined PMFs			
<u>Type of Policy</u>	<u>Current Combined</u>	<u>Indicated Combined</u>	<u>Capped Combined</u>
Motel/Hotel (31)	1.000	1.000	1.000
Apartment (32)	1.000	1.098	1.000
Office (33)	0.950	0.954	0.960
Mercantile (34)	0.950	1.013	1.000
Institution (35)	0.720	0.741	0.820
Services (36)	1.000	1.071	1.000
Ind/Proc (37)	0.810	0.827	0.900
Contractors (38)	0.880	0.889	0.890

NOTE: Combined PMFs are provided for informational purposes only.

INDIANA  
BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>\$ Lst Sq Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>	<u>Indicated Change</u>
10	0.545	0.232	0.869	0.871	
31	0.499	0.031	0.979	0.981	12.6%
32	1.394	0.275	1.096	1.098	26.1%
33	0.727	0.115	0.964	0.966	10.9%
34	1.171	0.305	1.049	1.051	20.7%
35	0.930	0.252	0.982	0.984	13.0%
36	1.408	0.207	1.073	1.075	23.4%
37	0.734	0.236	0.930	0.932	7.0%
38	0.802	0.067	0.985	0.987	13.3%

	(1)	(2)	(3)	(4)
<u>Territory</u>	<u>\$ Lst Sq Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>
Indianapolis	0.745	0.364	0.898	0.885
Bal. Of State	1.046	0.780	1.036	1.021

INDIANA  
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>\$ Lst Sq Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>	<u>Indicated Change</u>
10	0.971	0.196	0.994	0.997	
31	1.533	0.026	1.011	1.014	1.7%
32	0.826	0.243	0.955	0.958	-3.9%
33	1.595	0.170	1.083	1.086	8.9%
34	1.313	0.354	1.101	1.104	10.7%
35	0.922	0.459	0.963	0.966	-3.1%
36	0.717	0.239	0.924	0.927	-7.0%
37	0.575	0.178	0.906	0.909	-8.8%
38	0.708	0.117	0.960	0.963	-3.4%

	(1)	(2)	(3)	(4)
<u>Category</u>	<u>\$ Lst Sq Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>
01	0.974	0.823	0.979	0.985
02	0.994	0.124	0.999	1.005
03	0.610	0.173	0.918	0.924
04	0.716	0.179	0.942	0.948
05	0.835	0.154	0.973	0.979
06	0.866	0.088	0.987	0.993
07	0.842	0.011	0.998	1.004
08	2.312	0.500	1.521	1.531
09	0.885	0.277	0.967	0.973
10	1.086	0.035	1.003	1.009
11	1.537	0.187	1.084	1.091
12	1.234	0.134	1.029	1.036
13	0.819	0.118	0.977	0.983
14	1.125	0.139	1.017	1.024

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

<u>Type Of Policy</u>	(1) Latest Year Aggregate Loss Costs	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience Ratio	(4) 5 - Year Exp. Ratio Relativity
Indianapolis				
10 Monoline	822,035	3,703,390	0.272	0.309
31 Multiline Motel/Hotel	114,286	633,119	0.177	0.201
32 Multiline Apartment	1,859,299	7,564,642	0.983	1.118
33 Multiline Office	573,653	2,578,424	0.093	0.106
34 Multiline Mercantile	1,456,597	6,939,392	0.503	0.572
35 Multiline Institutional	318,824	1,972,577	0.385	0.438
36 Multiline Services	742,202	4,046,697	1.231	1.400
37 Multiline Indust/Process	504,798	2,764,247	1.649	1.876
38 Multiline Contractors	240,514	1,306,350	0.529	0.602
Total All Tops*	6,632,208	31,508,838	0.732	0.832
Balance Of State (Indiana)				
10 Monoline	7,013,891	26,569,328	0.501	0.570
31 Multiline Motel/Hotel	416,917	2,574,615	0.466	0.530
32 Multiline Apartment	6,194,875	30,320,918	1.275	1.451
33 Multiline Office	2,019,015	10,442,072	0.689	0.784
34 Multiline Mercantile	7,126,537	36,848,671	1.083	1.232
35 Multiline Institutional	3,699,931	31,799,262	0.855	0.973
36 Multiline Services	4,042,066	22,006,811	1.285	1.462
37 Multiline Indust/Process	5,199,764	28,154,314	0.666	0.758
38 Multiline Contractors	1,041,683	5,826,828	0.737	0.838
Total All Tops*	36,754,679	194,542,819	0.906	1.031

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

<u>Type Of Policy</u>	(1) Latest Year Aggregate Loss Costs	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience Ratio	(4) 5 - Year Exp. Ratio Relativity
Entire State				
10 Monoline	7,835,926	30,272,718	0.477	0.543
31 Multiline Motel/Hotel	531,203	3,207,734	0.404	0.459
32 Multiline Apartment	8,054,174	37,885,560	1.208	1.374
33 Multiline Office	2,592,668	13,020,496	0.557	0.634
34 Multiline Mercantile	8,583,134	43,788,063	0.985	1.120
35 Multiline Institutional	4,018,755	33,771,839	0.818	0.931
36 Multiline Services	4,784,268	26,053,508	1.277	1.452
37 Multiline Indust/Process	5,704,562	30,918,561	0.753	0.857
38 Multiline Contractors	1,282,197	7,133,178	0.698	0.794
Total All Tops*	43,386,887	226,051,657	0.879	1.001

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

			(1) Latest Year Aggregate Loss Costs	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience Ratio	(4) Credibility Weighted Experience Ratio	(5) Credibility Weighted Relativity
Entire State	<u>Type Of Policy</u>	<u>Category</u>					
	10 Monoline	01 Buildings	1,428,430	6,410,950	0.913	0.899	0.978
		02 Res. Apts. And Cond	15,053	131,615	0.690	0.763	0.830
		03 Offices	99,479	506,791	0.357	0.595	0.647
		04 Mercantile - High	116,183	544,263	1.642	1.191	1.296
		05 Mercantile - Medium	61,212	213,400	0.488	0.690	0.751
		06 Mercantile - Low	42,417	145,179	0.066	0.573	0.624
		07 Motels And Hotels	1,114	22,535	0.000	0.612	0.666
		08 Institutional - High	53,211	374,120	0.538	0.689	0.750
		09 Institutional - Low	23,279	254,848	0.001	0.510	0.555
		10 Indust-Proc - High	48,378	127,248	0.556	0.724	0.788
		11 Indust-Proc - Low	77,393	446,730	0.136	0.507	0.552
		12 Service - High	34,269	146,844	0.702	0.766	0.834
		13 Service - Low	71,903	359,607	0.437	0.650	0.707
		14 Contractors	11,338	56,417	0.128	0.627	0.682
		Total	2,083,659	9,740,547	0.814	0.846	0.921
	31 Multiline Motel/Hotel	01 Buildings	155,350	907,443	1.851	1.407	1.531
		07 Motels And Hotels	27,210	147,083	1.303	1.217	1.324
		Total	182,560	1,054,526	1.769	1.379	1.500
	32 Multiline Apartment	01 Buildings	2,014,649	10,836,408	0.655	0.758	0.825
		02 Res. Apts. And Cond	550,489	1,985,307	0.287	0.774	0.842
		Total	2,565,138	12,821,715	0.576	0.761	0.829
	33 Multiline Office	01 Buildings	1,125,233	5,737,716	1.575	1.464	1.593
		03 Offices	502,043	2,434,445	0.644	0.916	0.997
		04 Mercantile - High	112	2,183	1998.500	195.874	213.138

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

<u>Type Of Policy</u>	<u>Category</u>	(1) Latest Year Aggregate Loss Costs	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience Ratio	(4) Credibility Weighted Experience Ratio	(5) Credibility Weighted Relativity
	08 Institutional - Hig	842	1,770	0.000	1.086	1.182
	11 Indust-Proc - Low	454	473	0.000	1.086	1.182
	12 Service - High	424	2,001	0.000	1.086	1.182
	14 Contractors	516	2,366	0.000	1.086	1.182
	Total	1,629,624	8,180,954	1.423	1.308	1.423
34 Multiline Mercantile	01 Buildings	2,982,740	15,423,250	1.207	1.206	1.312
	03 Offices	9,699	43,483	0.261	1.099	1.196
	04 Mercantile - High	476,974	2,524,750	0.550	0.862	0.938
	05 Mercantile - Medium	502,114	2,496,840	0.878	1.034	1.125
	06 Mercantile - Low	231,371	1,265,464	0.867	1.077	1.172
	08 Institutional - Hig	0	49	0.000	1.087	1.183
	09 Institutional - Low	0	2	0.000	1.087	1.183
	10 Indust-Proc - High	3,690	5,460	0.000	1.084	1.180
	11 Indust-Proc - Low	1,359	4,814	0.000	1.085	1.181
	12 Service - High	12,066	59,981	0.000	1.064	1.158
	13 Service - Low	10,351	60,179	0.646	1.139	1.239
	14 Contractors	15,434	50,057	0.000	1.068	1.162
	Total	4,245,798	21,934,329	1.063	1.139	1.239
35 Multiline Institutional	01 Buildings	2,274,781	13,887,456	0.780	0.845	0.919
	03 Offices	4,074	20,106	0.000	1.079	1.174
	04 Mercantile - High	57	169	0.000	1.086	1.182
	08 Institutional - Hig	358,177	14,543,760	2.192	2.046	2.226
	09 Institutional - Low	873,509	5,410,092	0.573	0.769	0.837
	12 Service - High	341	2,517	0.000	1.086	1.182

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

<u>Type Of Policy</u>	<u>Category</u>	(1) Latest Year Aggregate Loss <u>Costs</u>	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience <u>Ratio</u>	(4) Credibility Weighted Experience <u>Ratio</u>	(5) Credibility Weighted Relativity
	13 Service - Low	1,230	5,379	0.492	1.133	1.233
	14 Contractors	721	2,871	0.000	1.085	1.181
	Total	3,512,890	33,872,350	0.871	0.949	1.032
36 Multiline Services	01 Buildings	1,580,852	8,553,900	0.647	0.658	0.716
	03 Offices	9,408	49,236	0.358	0.663	0.721
	04 Mercantile - High	9,610	56,016	9.401	1.729	1.881
	05 Mercantile - Medium	1,832	9,190	1.329	0.766	0.834
	06 Mercantile - Low	2,463	12,725	29.648	3.646	3.967
	08 Institutional - Hig	19,306	84,305	0.000	0.613	0.667
	09 Institutional - Low	9,515	87,894	0.000	0.612	0.666
	11 Indust-Proc - Low	4,161	21,928	1.111	0.746	0.812
	12 Service - High	384,131	2,085,647	0.963	0.839	0.913
	13 Service - Low	248,321	1,562,482	0.399	0.564	0.614
	14 Contractors	22,784	71,256	0.000	0.616	0.670
	Total	2,292,383	12,594,579	0.727	0.685	0.746
37 Indust/Proc	01 Buildings	972,776	5,184,721	0.436	0.511	0.556
	03 Offices	1,923	8,057	0.000	0.633	0.689
	04 Mercantile - High	4,980	28,187	0.000	0.628	0.683
	05 Mercantile - Medium	501	2,628	0.000	0.635	0.691
	06 Mercantile - Low	14	14	0.000	0.635	0.691
	10 Indust-Proc - High	81,625	416,578	0.903	0.750	0.816
	11 Indust-Proc - Low	546,504	2,974,520	0.969	0.863	0.939
	12 Service - High	2,480	10,368	0.000	0.632	0.688
	13 Service - Low	566	6,398	0.000	0.634	0.690
	14 Contractors	367	2,690	0.000	0.635	0.691
	Total	1,611,736	8,634,161	0.637	0.643	0.700

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

<u>Type Of Policy</u>	<u>Category</u>	(1) Latest Year Aggregate Loss Costs	(2) 5 - Year Aggregate Loss Costs	(3) 5 - Year Experience Ratio	(4) Credibility Weighted Experience Ratio	(5) Credibility Weighted Relativity
38 Multiline Contractors	01 Buildings	529,954	2,799,058	0.609	0.648	0.705
	03 Offices	15,302	72,804	3.507	1.051	1.144
	04 Mercantile - High	23,712	125,305	1.415	0.805	0.876
	05 Mercantile - Medium	1,092	4,342	6.839	1.307	1.422
	06 Mercantile - Low	3,053	20,596	2.383	0.879	0.956
	08 Institutional - Hig	181	633	0.000	0.635	0.691
	11 Indust-Proc - Low	3,690	6,514	0.000	0.633	0.689
	12 Service - High	3,108	14,831	0.000	0.631	0.687
	13 Service - Low	3,397	9,569	1.488	0.782	0.851
	14 Contractors	382,353	2,232,747	0.795	0.753	0.819
	Total	965,842	5,286,399	0.760	0.702	0.763
Total All TOPs	01 Buildings	13,064,765	69,740,902	0.905	0.924	1.006
	02 Res. Apts. And Cond	565,542	2,116,922	0.298	0.774	0.842
	03 Offices	641,928	3,134,922	0.652	0.869	0.945
	04 Mercantile - High	631,628	3,280,873	1.268	0.966	1.052
	05 Mercantile - Medium	566,751	2,726,400	0.848	0.996	1.084
	06 Mercantile - Low	279,318	1,443,978	1.016	1.021	1.111
	07 Motels And Hotels	28,324	169,618	1.252	1.193	1.298
	08 Institutional - Hig	431,717	15,004,637	1.885	1.812	1.972
	09 Institutional - Low	906,303	5,752,836	0.552	0.761	0.828
	10 Indust-Proc - High	133,693	549,286	0.753	0.750	0.816
	11 Indust-Proc - Low	633,561	3,454,979	0.860	0.818	0.890
	12 Service - High	436,819	2,322,189	0.902	0.837	0.911
	13 Service - Low	335,768	2,003,614	0.425	0.605	0.658
	14 Contractors	433,513	2,418,404	0.705	0.755	0.821
	Total	19,089,630	114,119,560	0.881	0.919	1.000

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Latest Year Loss Costs At Current <u>Implicit PMF</u>	10-Year Experience Ratio At Current <u>PMF</u>	Formula Relativity (2)/ 1.341	Credibility (C)	Credibility Weighted Relativity (D)	Balanced Formula Relativity ( E)	Normalized Formula Relativity (F)	Indicated Change
Monoline	3,152,402	1.177	0.878	0.374	0.95	0.954	0.9476	
Multiline	26,188,251	1.361	1.015	0.864	1.01	1.013	1.0064	
Coverage	29,340,653	1.341	1.000			1.007	1.0001	
<u>Multiline Top</u>								
31 Motel/Hotel	324,890	1.744	1.301	0.078	1.02	1.030	1.0230	8.0%
32 Apartment	5,826,709	1.256	0.937	0.532	0.97	0.973	0.9664	2.0%
33 Office	1,875,782	1.143	0.852	0.261	0.96	0.968	0.9615	1.5%
34 Mercantile	5,800,404	1.398	1.043	0.562	1.02	1.031	1.0240	8.1%
35 Institutional	4,534,074	1.384	1.032	0.631	1.02	1.027	1.0201	7.7%
36 Services	4,152,215	1.378	1.028	0.497	1.01	1.021	1.0141	7.0%
37 Indust/Process	2,567,081	1.520	1.133	0.355	1.05	1.054	1.0469	10.5%
38 Contractors	1,107,096	1.445	1.078	0.203	1.02	1.023	1.0161	7.2%
	26,188,251	1.361	1.015		1.01	1.013	1.0064	

For Columns (2) - (10), the Multiline total is the average weighted by Column (1)

C - Credibility =  $P/(P+K)$  where P represents the total 10-year adjusted loss costs and  $K = 45,000,000$

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

E - (6) =  $(5) * (1.013/1.006)$

F - (7) =  $(6) / 1.0068$

INDIANA  
OWNERS, LANDLORDS, AND TENANTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1) Bailey Formula <u>Relativity</u>	(2) Credibility <u>Z</u>	(3) Credibility Weighted <u>Relativity</u>	(4) Balanced <u>Relativity</u>	(5) Indicated <u>Change</u>
<u>TOP</u>					
10	1.068	0.266	1.018	1.019	
31	0.650	0.107	0.955	0.956	-6.2%
32	1.433	0.123	1.045	1.047	2.7%
33	0.808	0.180	0.962	0.964	-5.4%
34	0.973	0.219	0.994	0.996	-2.3%
35	0.749	0.207	0.942	0.944	-7.4%
36	1.270	0.138	1.033	1.035	1.6%
<u>Class Group</u>					
1	1.140	0.150	1.020	1.018	
2	0.690	0.143	0.948	0.947	
3	0.825	0.107	0.980	0.978	
4	0.555	0.037	0.979	0.977	
5	0.804	0.042	0.991	0.989	
6	0.487	0.062	0.956	0.955	
7	0.849	0.104	0.983	0.982	
8	1.151	0.029	1.004	1.002	
9	1.156	0.133	1.019	1.018	
10	1.037	0.207	1.008	1.006	
11	0.983	0.168	0.997	0.996	
12	1.153	0.246	1.036	1.034	
13	1.030	0.069	1.002	1.000	
16	1.216	0.111	1.022	1.020	
<u>Territory</u>					
501	0.983	0.228	0.996	0.998	
502	1.384	0.075	1.025	1.027	
504	1.046	0.191	1.009	1.011	
506	0.980	0.381	0.992	0.994	

INDIANA  
MANUFACTURERS AND CONTRACTORS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>Bailey Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>	<u>Indicated Change</u>
10	0.991	0.189	0.998	0.994	
33	0.673	0.038	0.985	0.981	-1.3%
34	0.721	0.082	0.974	0.969	-2.5%
35	2.187	0.059	1.047	1.042	4.8%
36	1.356	0.135	1.042	1.037	4.3%
37	0.799	0.093	0.979	0.975	-1.9%
38	1.062	0.232	1.014	1.009	1.5%
<u>Class Group</u>					
30	1.104	0.098	1.010	1.012	
31	1.043	0.139	1.006	1.008	
32	0.985	0.226	0.997	0.999	
33	0.969	0.107	0.997	0.999	
34	1.193	0.129	1.023	1.025	
35	0.792	0.031	0.993	0.995	
36	0.816	0.078	0.984	0.986	
37	0.417	0.059	0.950	0.951	
38	1.273	0.099	1.024	1.026	

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

Territory: All		(1) Calendar A.Y.E 9/30/2022 Agg. Loss Costs at Current Level	(2) Calendar A.Y.E 2018-2022 Agg. Loss Costs at Current Level	(3) Five Year Experience Ratio	(4) Relativity	(5) Number of Occurrences	(6) Bal Cell Relativity
Type of Policy	Class Group						
10 MONOLINE	1 FOOD&BEV.(RETAIL)	\$94,600	\$2,737,175	0.669		214	
	2 RESTAURANTS	\$282,198	\$2,149,230	0.756		60	
	3 STORES	\$204,100	\$1,306,265	0.600		34	
	4 VENDING & RENTAL	\$13,321	\$76,862	0.001		1	
	5 FOOD & BEV. DIST.	\$9,182	\$196,358	5.740		14	
	6 NON-FOOD&BEV.DIST	\$74,057	\$470,160	0.675		11	
	7 CLUBS,AMSMT&SPRTS	\$359,781	\$1,958,208	1.464		60	
	8 HEALTH CARE FACIL	\$8,738	\$64,469	3.706		2	
	9 HOTELS AND MOTELS	\$152,680	\$2,020,090	1.207		96	
	10 SCHLS & CHURCHES	\$2,824,474	\$6,251,796	1.212		158	
	11 APARTMENTS	\$1,550,202	\$9,114,142	1.182		247	
	12 BUILDINGS&OFFICES	\$1,573,610	\$8,143,262	1.396		224	
	13 MISC. PREMISES	\$190,606	\$912,278	1.471		26	
	16 GOVT SUBDIVISIONS	\$765,863	\$1,878,337	1.876		123	
	TOTAL *	\$8,103,413	\$37,278,632	1.285		1270	
31 MULT MOTEL/HOTEL	9 HOTELS AND MOTELS	\$789,556	\$4,141,489	0.872		208	
	TOTAL *	\$789,556	\$4,141,489	0.872		208	
32 MULT APARTMENT	11 APARTMENTS	\$2,072,890	\$9,499,569	1.678		259	
	12 BUILDINGS&OFFICES	\$88,107	\$557,850	1.331		14	
	TOTAL *	\$2,160,997	\$10,057,419	1.664		273	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$3,611,040	\$18,449,607	1.089		577	
	13 MISC. PREMISES	\$53,820	\$261,133	1.307		9	
	TOTAL *	\$3,664,859	\$18,710,740	1.092		586	
34 MULT MERCANTILE	1 FOOD&BEV.(RETAIL)	\$1,316,629	\$6,396,210	1.335		191	
	2 RESTAURANTS	\$2,514,231	\$10,429,235	0.789		309	
	3 STORES	\$853,716	\$4,464,071	0.946		140	
	4 VENDING & RENTAL	\$4,927	\$25,587	7.301		4	
	5 FOOD & BEV. DIST.	\$163,739	\$601,902	0.643		18	
	6 NON-FOOD&BEV.DIST	\$771,693	\$3,197,232	0.547		59	
	12 BUILDINGS&OFFICES	\$883,087	\$4,561,417	1.203		144	

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

Territory: All		(1) Calendar A.Y.E 9/30/2022 Agg. Loss Costs at Current Level	(2) Calendar A.Y.E 2018-2022 Agg. Loss Costs at Current Level	(3) Five Year Experience Ratio	(4) Relativity	(5) Number of Occurrences	(6) Bal Cell Relativity
Type of Policy	Class Group						
	TOTAL *	\$6,508,023	\$29,675,654	0.949		865	
35 MULT INSTITUT.	7 CLUBS,AMSMT&SPRTS	\$50,668	\$292,016	1.218		12	
	8 HEALTH CARE FACIL	\$113,135	\$680,379	0.927		13	
	10 SCHLS & CHURCHES	\$1,461,951	\$16,787,524	1.055		617	
	12 BUILDINGS&OFFICES	\$66,238	\$364,821	1.989		29	
	13 MISC. PREMISES	\$0	\$8,971	0.000		0	
	16 GOVT SUBDIVISIONS	\$856,733	\$3,476,863	0.684		99	
	TOTAL *	\$2,548,725	\$21,610,574	0.952		770	
36 MULT SERVICES	3 STORES	\$146,950	\$591,665	1.759		32	
	4 VENDING & RENTAL	\$97,330	\$613,793	0.572		19	
	7 CLUBS,AMSMT&SPRTS	\$1,062,730	\$5,652,410	1.078		123	
	8 HEALTH CARE FACIL	\$6,332	\$24,024	0.000		0	
	9 HOTELS AND MOTELS	\$72,225	\$346,766	2.236		15	
	10 SCHLS & CHURCHES	\$3,499	\$29,159	0.000		0	
	12 BUILDINGS&OFFICES	\$285,163	\$1,475,189	2.268		102	
	13 MISC. PREMISES	\$203,040	\$1,149,627	1.248		51	
	TOTAL *	\$1,877,269	\$9,882,633	1.343		342	
TOTAL ALL	TOP						
	1 FOOD&BEV.(RETAIL)	\$1,411,230	\$9,133,385	1.290		405	
	2 RESTAURANTS	\$2,796,429	\$12,578,465	0.786		369	
	3 STORES	\$1,204,766	\$6,362,001	0.987		206	
	4 VENDING & RENTAL	\$115,578	\$716,242	0.793		24	
	5 FOOD & BEV. DIST.	\$172,921	\$798,260	0.914		32	
	6 NON-FOOD&BEV.DIST	\$845,750	\$3,667,393	0.558		70	
	7 CLUBS,AMSMT&SPRTS	\$1,473,179	\$7,902,635	1.177		195	
	8 HEALTH CARE FACIL	\$128,206	\$768,872	1.071		15	
	9 HOTELS AND MOTELS	\$1,014,461	\$6,508,345	1.020		319	
	10 SCHLS & CHURCHES	\$4,289,923	\$23,068,479	1.158		775	
	11 APARTMENTS	\$3,623,091	\$18,613,711	1.466		506	
	12 BUILDINGS&OFFICES	\$6,507,245	\$33,552,145	1.243		1090	
	13 MISC. PREMISES	\$447,466	\$2,332,009	1.350		86	
	16 GOVT SUBDIVISIONS	\$1,622,596	\$5,355,200	1.246		222	
	TOTAL *	\$25,652,840	\$131,357,141	1.163		4314	

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

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

		(1) Calendar A.Y.E 9/30/2022 Aggregate Loss Costs as Current Level	(2) Calendar A.Y.E 2018-2022 Aggregate Loss Costs as Current Level	(3) Five Year Experience Ratio	(4) Relativity	(5) Number of Occurrences	(6) Bal Cell Relativity
<u>Type of Policy</u>	<u>Class Group</u>						
10 MONOLINE	30 SERVICE	\$297,328	\$965,584	1.555	1.696	46	1.006
	31 LIGHT CONTRACTING	\$354,278	\$1,769,520	1.196	1.304	84	1.002
	32 MEDIUM CONTRCTING	\$2,599,251	\$13,993,413	0.819	0.893	319	0.993
	33 HEAVY CONTRACTING	\$604,339	\$2,715,540	1.064	1.160	52	0.993
	34 DEALER OR DISTRIB	\$445,838	\$2,566,427	0.513	0.559	48	1.019
	35 LGT. MANUFACTURER	\$153,731	\$763,460	0.764	0.833	7	0.989
	36 MED. MANUFACTURER	\$589,113	\$2,709,115	0.652	0.711	27	0.980
	37 HVY. MANUFACTURER	\$316,088	\$2,016,935	0.127	0.138	11	0.945
	38 MISC. OPERATION	\$337,084	\$1,231,679	1.778	1.939	52	1.020
	TOTAL *	\$5,697,051	\$28,731,674	0.882		646	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$29,563	\$159,934	0.191	0.208	3	0.989
	32 MEDIUM CONTRCTING	\$11,738	\$52,023	0.000	0.000	-	0.980
	33 HEAVY CONTRACTING	\$136,721	\$625,997	0.882	0.962	7	0.980
	38 MISC. OPERATION	\$169,649	\$901,183	0.677	0.738	16	1.007
	TOTAL *	\$347,671	\$1,739,137	0.693		26	
34 MULT MERCANTILE	30 SERVICE	\$67,523	\$355,557	0.581	0.634	8	0.981
	32 MEDIUM CONTRCTING	\$159,530	\$778,551	1.703	1.857	17	0.968
	34 DEALER OR DISTRIB	\$809,839	\$4,190,611	0.627	0.684	86	0.993
	38 MISC. OPERATION	\$42,905	\$242,066	0.218	0.238	9	0.994
	TOTAL *	\$1,079,797	\$5,566,785	0.767		120	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$20,685	\$97,956	2.435	2.655	3	1.050
	32 MEDIUM CONTRCTING	\$132,054	\$788,113	1.921	2.095	59	1.041
	TOTAL *	\$152,738	\$886,069	1.991		62	
36 MULT SERVICES	30 SERVICE	\$68,565	\$351,478	0.754	0.822	19	1.049
	31 LIGHT CONTRACTING	\$154,627	\$785,356	0.529	0.577	17	1.045
	32 MEDIUM CONTRCTING	\$108,307	\$843,802	0.895	0.976	21	1.036

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

		(1)	(2)	(3)	(4)	(5)	(6)
		Calendar A.Y.E 9/30/2022	Calendar A.Y.E 2018-2022	Five Year Experience			
<u>Type of Policy</u>	<u>Class Group</u>	Aggregate Loss Costs as <u>Current Level</u>	Aggregate Loss Costs as <u>Current Level</u>	<u>Ratio</u>	<u>Relativity</u>	<u>Number of Occurrences</u>	<u>Bal Cell Relativity</u>
	33 HEAVY CONTRACTING	\$63,834	\$370,781	0.033	0.036	4	1.036
	34 DEALER OR DISTRIB	\$741,909	\$4,370,286	2.034	2.218	167	1.063
	36 MED. MANUFACTURER	\$32,787	\$159,184	3.189	3.478	5	1.022
	38 MISC. OPERATION	\$692,372	\$3,020,079	1.281	1.397	95	1.064
	TOTAL *	\$1,862,402	\$9,900,966	1.467		328	
37 MULT INDUST/PROC.	31 LIGHT CONTRACTING	\$364	\$7,036	0.000	0.000	-	0.983
	32 MEDIUM CONTRCTING	\$122,201	\$651,746	0.400	0.436	11	0.974
	33 HEAVY CONTRACTING	\$68,623	\$372,221	0.087	0.095	4	0.974
	34 DEALER OR DISTRIB	\$27,189	\$220,201	0.000	0.000	-	0.999
	35 LGT. MANUFACTURER	\$119,050	\$629,339	0.522	0.569	10	0.970
	36 MED. MANUFACTURER	\$1,106,279	\$5,210,474	0.580	0.632	77	0.961
	37 HVY. MANUFACTURER	\$1,284,881	\$5,570,634	0.367	0.400	52	0.927
	38 MISC. OPERATION	\$30,094	\$104,941	2.684	2.927	2	1.000
	TOTAL *	\$2,758,682	\$12,766,592	0.475		156	
38 MULT CONTRACTORS	30 SERVICE	\$859,040	\$4,546,047	0.945	1.031	101	1.021
	31 LIGHT CONTRACTING	\$1,154,003	\$6,356,299	1.047	1.142	240	1.017
	32 MEDIUM CONTRCTING	\$3,615,347	\$20,478,266	0.991	1.081	489	1.008
	33 HEAVY CONTRACTING	\$1,444,920	\$7,820,755	0.920	1.003	138	1.008
	38 MISC. OPERATION	\$59,768	\$204,797	1.099	1.198	3	1.035
	TOTAL *	\$7,133,077	\$39,406,164	0.981		971	
TOTAL ALL TOP	30 SERVICE	\$1,292,456	\$6,218,666	1.056		174	
	31 LIGHT CONTRACTING	\$1,713,520	\$9,176,102	1.033		347	
	32 MEDIUM CONTRCTING	\$6,748,428	\$37,585,914	0.946		916	
	33 HEAVY CONTRACTING	\$2,318,436	\$11,905,295	0.906		205	
	34 DEALER OR DISTRIB	\$2,024,776	\$11,347,526	1.109		301	
	35 LGT. MANUFACTURER	\$272,781	\$1,392,800	0.658		17	
	36 MED. MANUFACTURER	\$1,728,179	\$8,078,772	0.654		109	
	37 HVY. MANUFACTURER	\$1,600,969	\$7,587,569	0.320		63	
	38 MISC. OPERATION	\$1,331,873	\$5,704,745	1.319		177	
	TOTAL *	\$19,031,418	\$98,997,388	0.917		2,309	

INDIANA  
PRODUCTS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	<u>Bailey Formula Relativity</u>	<u>Credibility Z</u>	<u>Credibility Weighted Relativity</u>	<u>Balanced Relativity</u>	<u>Indicated Change</u>
10	0.928	0.322	0.976	0.976	
34	1.049	0.356	1.017	1.016	4.2%
36	1.049	0.178	1.008	1.008	3.3%
37	1.011	0.431	1.005	1.004	2.9%
<u>Class Group</u>					
3	0.930	0.423	0.970	0.970	
4	1.069	0.394	1.027	1.027	
5	1.116	0.105	1.012	1.012	
6	0.992	0.299	0.998	0.998	
7	0.865	0.118	0.983	0.983	

Note: The indicated changes by TOP were further adjusted by the following differentials

TOP 34: 0.974

TOP 36: 0.979

TOP 37: 0.997

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

		(1)	(2)	(3)	(4)	(5)	(6)
		Calendar A.Y.E 12/31/2021	Calendar A.Y.E 2017-2021	Five Year Experience			
<u>Type of Policy</u>	<u>Class Group</u>	<u>Agg. Loss Costs at Current Level</u>	<u>Agg. Loss Costs at Current Level</u>	<u>Ratio</u>	<u>Relativity</u>	<u>Number of Occurrences</u>	<u>Bal Cell Relativity</u>
10 MONOLINE	3 MAN,DLR,DSTFD/DRG	11,819,097	63,658,617	0.783	0.870	1,091	0.946
	4 DLR,DST-NOTFD/DRG	7,190,323	36,653,516	0.937	1.042	432	1.002
	5 MAN.NTFD/DRG(LOW)	1,226,514	7,102,146	0.788	0.876	56	0.987
	6 MAN.NTFD/DRG(MED)	8,466,486	42,680,135	0.814	0.905	423	0.973
	7 MAN.NTFD/DRG(HGH)	2,036,214	10,951,431	0.681	0.757	70	0.959
	TOTAL *	30,738,634	161,045,845	0.821		2,072	
34 MULT MERCANTILE	3 MAN,DLR,DSTFD/DRG	5,085,663	25,340,297	0.947	1.053	506	0.986
	4 DLR,DST-NOTFD/DRG	27,891,818	137,888,579	0.997	1.108	2,035	1.044
	6 MAN.NTFD/DRG(MED)	2,648	13,111	0.000	0.000	-	1.014
	TOTAL *	32,980,129	163,241,987	0.989		2,541	
36 MULT SERVICES	4 DLR,DST-NOTFD/DRG	3,130,195	15,943,473	1.018	1.131	631	1.035
	6 MAN.NTFD/DRG(MED)	30,963	176,926	0.028	0.031	1	1.005
	TOTAL *	3,161,158	16,120,400	1.008		632	
37 MULT INDUST/PROC.	3 MAN,DLR,DSTFD/DRG	11,666,754	62,347,318	0.810	0.901	1,979	0.974
	5 MAN.NTFD/DRG(LOW)	3,213,073	18,166,949	1.070	1.190	163	1.015
	6 MAN.NTFD/DRG(MED)	26,040,916	133,610,898	0.908	1.010	1,362	1.001
	7 MAN.NTFD/DRG(HGH)	6,218,877	29,699,655	0.800	0.890	210	0.987
	TOTAL *	47,139,619	243,824,820	0.881		3,714	
TOTAL ALL TOP	3 MAN,DLR,DSTFD/DRG	28,571,513	151,346,232	0.823		3,576	
	4 DLR,DST-NOTFD/DRG	38,212,336	190,485,568	0.987		3,098	
	5 MAN.NTFD/DRG(LOW)	4,439,588	25,269,095	0.992		219	
	6 MAN.NTFD/DRG(MED)	34,541,014	176,481,070	0.884		1,786	
	7 MAN.NTFD/DRG(HGH)	8,255,091	40,651,087	0.771		280	
	TOTAL *	114,019,542	584,233,052	0.899		8,959	

INDIANA  
LOCAL PRODUCTS/COMPLETED OPERATIONS  
BASIC LIMIT RELATIVE CHANGE ANALYSIS

	(1)	(2)	(3)	(4)	(5)
<u>TOP</u>	Bailey Formula Relativity	Credibility Z	Credibility Weighted Relativity	Balanced Relativity	Indicated Change
10	1.006	0.779	1.005	1.006	
34	1.009	0.487	1.004	1.005	0.0%
36	0.988	0.571	0.993	0.994	-1.2%
37	0.887	0.148	0.982	0.983	-2.2%
38	1.001	0.975	1.001	1.002	-0.4%
Class Group					
1	1.380	0.484	1.169	1.175	
2	1.005	0.553	1.003	1.008	
11	1.100	0.365	1.036	1.041	
12	0.983	1.000	0.983	0.988	
13	0.961	0.263	0.990	0.995	

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

State	(1) Bailey Formula Relativity	(2) Credibility	(3) Credibility Weighted Relativity	(4) Balanced Relativity
	1.268	0.358	1.089	1.092
	1.365	0.259	1.084	1.087
	1.833	0.110	1.069	1.073
	1.342	0.222	1.068	1.071
	1.300	0.230	1.062	1.066
	1.301	0.218	1.059	1.063
	1.251	0.252	1.058	1.062
	1.289	0.180	1.047	1.050
	1.156	0.306	1.045	1.049
	1.080	0.562	1.044	1.048
	1.169	0.254	1.040	1.044
	1.081	0.487	1.039	1.042
	1.077	0.410	1.031	1.034
	1.114	0.269	1.030	1.033
	1.085	0.323	1.027	1.030
	1.260	0.111	1.026	1.029
	1.080	0.333	1.026	1.029
	1.033	0.489	1.016	1.019
	1.027	0.466	1.013	1.016
	1.047	0.211	1.010	1.013
	1.037	0.226	1.008	1.012
	1.015	0.243	1.004	1.007
	1.010	0.354	1.004	1.007
	1.111	0.030	1.003	1.007
	0.995	0.171	0.999	1.003
	0.996	0.436	0.998	1.002
	0.995	0.688	0.997	1.000
	0.984	0.327	0.995	0.998
	0.965	0.163	0.994	0.998
	0.960	0.162	0.993	0.997
	0.984	0.436	0.993	0.996
	0.966	0.208	0.993	0.996
	0.968	0.232	0.992	0.996
	0.936	0.133	0.991	0.995
	0.960	0.249	0.990	0.993
	0.977	0.493	0.988	0.992
	0.973	0.635	0.982	0.986
	0.873	0.137	0.982	0.985
	0.947	0.374	0.980	0.983
	0.924	0.314	0.975	0.979
INDIANA	0.930	0.371	0.973	0.977
	0.835	0.157	0.972	0.975
	0.913	0.357	0.968	0.971

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

State	(1) Bailey Formula Relativity	(2) Credibility	(3) Credibility Weighted Relativity	(4) Balanced Relativity
	0.899	0.376	0.961	0.964
	0.340	0.043	0.955	0.958
	0.898	0.432	0.955	0.958
	0.896	0.507	0.946	0.949
	0.690	0.163	0.941	0.944
	0.825	0.328	0.939	0.942
	0.827	0.390	0.928	0.932
	0.811	0.363	0.927	0.930
	0.683	0.237	0.914	0.917

\* Sorted by balanced relative change

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

		(1)	(2)	(3)	(4)	(5)	(6)
		Calendar A.Y.E 12/31/2021	Calendar A.Y.E 2017-2021	Five Year Experience			
Type of Policy	Class Group	Agg. Loss Costs at Current Level	Agg. Loss Costs at Current Level	Ratio	Relativity	Number of Occurrences	Bal Cell Relativity
10 MONOLINE	1 RET.STRS-FOOD/DRG	\$8,764	\$79,257	0.549	0.569	12	1.154
	2 RET.STRS-NTFD/DRG	\$37,729	\$164,132	0.580	0.602	11	0.990
	11 COMP. OPS. (LOW)	\$70,530	\$460,110	1.518	1.575	13	1.023
	12 COMP. OPS. (MED)	\$1,597,156	\$7,410,400	0.762	0.791	110	0.971
	13 COMP. OPS. (HGH)	\$87,177	\$415,551	1.094	1.136	7	0.977
	TOTAL *	\$1,801,357	\$8,529,451	0.803		153	
34 MULT MERCANTILE	1 RET.STRS-FOOD/DRG	\$64,251	\$470,241	1.304	1.354	50	1.154
	2 RET.STRS-NTFD/DRG	\$56,061	\$319,046	0.839	0.871	12	0.990
	12 COMP. OPS. (MED)	\$61,902	\$306,719	0.266	0.276	2	0.970
	TOTAL *	\$182,214	\$1,096,005	0.808		64	
36 MULT SERVICES	1 RET.STRS-FOOD/DRG	\$15,719	\$104,593	3.075	3.192	6	1.141
	2 RET.STRS-NTFD/DRG	\$272,628	\$1,359,759	1.428	1.483	97	0.979
	11 COMP. OPS. (LOW)	\$161,152	\$853,399	1.480	1.536	35	1.011
	12 COMP. OPS. (MED)	\$69,702	\$345,550	0.926	0.962	20	0.959
	13 COMP. OPS. (HGH)	\$51,001	\$244,091	0.190	0.198	2	0.966
	TOTAL *	\$570,202	\$2,907,392	1.316		160	
37 MULT INDUST/PROC.	1 RET.STRS-FOOD/DRG	\$490	\$1,443	0.000	0.000	0	1.129
	11 COMP. OPS. (LOW)	\$4,647	\$31,413	0.000	0.000	0	1.000
	12 COMP. OPS. (MED)	\$66,599	\$374,780	3.059	3.176	7	0.949
	13 COMP. OPS. (HGH)	\$339	\$1,075	0.000	0.000	0	0.956
	TOTAL *	\$72,075	\$408,710	2.827		7	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$206,157	\$1,118,011	0.676	0.701	19	1.019
	12 COMP. OPS. (MED)	\$3,852,277	\$20,255,271	0.844	0.876	337	0.967
	13 COMP. OPS. (HGH)	\$420,288	\$1,921,213	0.932	0.967	15	0.974
	TOTAL *	\$4,478,721	\$23,294,495	0.844		371	
TOTAL ALL TOP	1 RET.STRS-FOOD/DRG	\$89,223	\$655,534	1.535		68	
	2 RET.STRS-NTFD/DRG	\$366,418	\$1,842,937	1.251		120	
	11 COMP. OPS. (LOW)	\$442,485	\$2,462,932	1.096		67	
	12 COMP. OPS. (MED)	\$5,647,636	\$28,692,720	0.842		476	
	13 COMP. OPS. (HGH)	\$558,806	\$2,581,930	0.889		24	
	TOTAL *	\$7,104,569	\$36,236,053	0.891		755	

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

		(1)	(2)	(3)	(4)	(5)	(6)
		Calendar A.Y.E 12/31/2021	Calendar A.Y.E 2017-2021	Five Year Experience			
<u>Type of Policy</u>	<u>Class Group</u>	<u>Agg. Loss Costs at Current Level</u>	<u>Agg. Loss Costs at Current Level</u>	<u>Ratio</u>	<u>Relativity</u>	<u>Number of Occurrences</u>	<u>Bal Cell Relativity</u>
10 MONOLINE	1 RET.STRS-FOOD/DRG	1,748,833	13,294,303	1.231		621	
	2 RET.STRS-NTFD/DRG	3,644,206	17,449,172	1.109		492	
	11 COMP. OPS. (LOW)	5,499,261	29,100,438	1.217		689	
	12 COMP. OPS. (MED)	120,011,947	572,386,816	0.962		7,034	
	13 COMP. OPS. (HGH)	7,536,492	38,042,850	0.672		262	
	TOTAL *	138,440,739	670,273,579	0.964		9,098	
34 MULT MERCANTILE	1 RET.STRS-FOOD/DRG	8,156,117	43,997,404	1.362		2,733	
	2 RET.STRS-NTFD/DRG	7,639,610	36,671,723	0.951		693	
	12 COMP. OPS. (MED)	3,008,570	14,169,615	0.939		125	
	TOTAL *	18,804,297	94,838,741	1.127		3,551	
36 MULT SERVICES	1 RET.STRS-FOOD/DRG	643,620	4,295,009	1.241		162	
	2 RET.STRS-NTFD/DRG	15,583,411	76,045,252	0.943		3,398	
	11 COMP. OPS. (LOW)	3,267,900	16,818,142	1.161		488	
	12 COMP. OPS. (MED)	5,157,211	26,533,736	0.988		778	
	13 COMP. OPS. (HGH)	1,204,826	5,882,500	0.609		61	
	TOTAL *	25,856,969	129,574,639	0.971		4,887	
37 MULT INDUST/PROC.	1 RET.STRS-FOOD/DRG	22,984	127,871	0.000		-	
	11 COMP. OPS. (LOW)	118,128	638,240	0.539		14	
	12 COMP. OPS. (MED)	5,046,084	25,673,289	0.857		313	
	13 COMP. OPS. (HGH)	2,262	21,501	0.000		-	
	TOTAL *	5,189,458	26,460,901	0.846		327	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	11,708,508	61,005,531	0.958		812	
	12 COMP. OPS. (MED)	192,727,882	985,553,302	0.941		12,745	
	13 COMP. OPS. (HGH)	15,769,275	78,710,767	1.070		712	
	TOTAL *	220,205,665	1,125,269,600	0.951		14,269	
TOTAL ALL TOP	1 RET.STRS-FOOD/DRG	10,571,554	61,714,586	1.330		3,516	
	2 RET.STRS-NTFD/DRG	26,867,226	130,166,147	0.968		4,583	
	11 COMP. OPS. (LOW)	20,593,798	107,562,352	1.057		2,003	
	12 COMP. OPS. (MED)	325,951,694	1,624,316,756	0.948		20,995	
	13 COMP. OPS. (HGH)	24,512,856	122,657,618	0.925		1,035	
	TOTAL *	408,497,128	2,046,417,459	0.963		32,132	

COMMERCIAL PACKAGE POLICY

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

**PACKAGE MODIFICATION FACTORS**

<b>Package Modification Assignment (PMA)</b>	<b>Premium From CLM Division</b>			
	<b>Two</b>	<b>Three, Four, Five, Eight  Property</b>	<b>Four, Six  Liability</b>	<b>All Other Divisions</b>
Apartment House	.90	1.00	1.00	1.00
Contractors	.90	1.00	0.88	1.00
Industrial & Processing	.90	0.93	0.87	1.00
Institutional	.90	0.84	0.78	1.00
Mercantile	.90	1.00	1.00	1.00
Motel/Hotel	.90	1.00	1.00	1.00
Office	.90	1.00	0.92	1.00
Service	.90	1.00	1.00	1.00

**Table 1. Package Modification Factors**