

LOSS COSTS – IMPLEMENTATION

AUGUST 5, 2019

COMMERCIAL PROPERTY

LI-CF-2019-078

TENNESSEE COMMERCIAL FIRE AND ALLIED LINES ADVISORY PROSPECTIVE LOSS COST REVISION TO BE IMPLEMENTED

KEY MESSAGE

Revised advisory prospective loss costs reflecting a statewide loss cost level change of +2.7% to be implemented.

BACKGROUND

In circular [LI-CF-2019-041](#), we provided you with information about the Commercial Fire and Allied Lines loss cost level experience review.

ISO ACTION

We are implementing CF-2019-RLA1, which presents a review of Commercial Fire and Allied Lines loss cost experience. Refer to the attachment(s) for complete details.

SUPPLEMENTARY INFORMATION

We are including the following supplementary information:

- An Actuarial Analysis Supplement which provides discussion and analysis of changes in the experience and adjustments used to derive the loss cost level analysis.
- The loss cost exhibits contained in this filing in a Microsoft® Excel workbook.

NOTE: This supplementary information is **not** part of the experience review document and, in states where we are making a filing, is **not** part of the filing.

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, 2020.

The effective date applies only to those insurers who have filed their Commercial Fire and Allied Lines loss cost adjustments to be automatically applicable to future ISO loss cost revisions.

IMPACT ON THE STATISTICAL REPORTING OF LOSS COST MULTIPLIER

For the purpose of reporting your company Loss Cost Multiplier under the CSP, as of February 1, 2020, the multiplier must be based on the relationship between your gross rates and the ISO advisory prospective loss costs contained in this circular.

COMPANY ACTION

You must independently determine the final rates you will use. The action, if any, you must take in response to this filing is dependent upon how you filed to have your loss cost adjustments apply to subsequent revisions of ISO loss costs. Any submission you make with respect to this revision must comply with applicable regulatory filing requirements.

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

WE WILL SUBMIT OUR REFERENCE FILING TO THE INSURANCE DEPARTMENT ON **JANUARY 3, 2020**. ANY SUBMISSION YOU MAY MAKE WITH THE INSURANCE DEPARTMENT WITH RESPECT TO THIS FILING SHOULD NOT BE SUBMITTED PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Reference Filing Number CF-2019-RLA1, NOT this circular number.

CAUTION: This reference filing revises only certain advisory prospective loss costs for Commercial Fire and Allied Lines in this state. In determining whether or not to revise your rates, you should consider the application of your loss cost adjustments to any loss costs not included in this revision.

RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

POLICYHOLDER NOTIFICATION

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

REVISION DISTRIBUTION INFORMATION

- **Manual And ISO Suite**

We will issue a Notice to Manualholders with an edition date of 2-20 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

- **ProMetrix**

Revised loss costs for specifically rated and class-rated properties contained in ProMetrix will be displayed as "Pending" beginning on September 16, 2019. On February 1, 2020, these loss costs will move to "Current" status. The previous "Current" becomes the most recent "Prior" and joins all previously displayed "Priors". With each subsequent loss cost revision, we will make an additional "Prior" available. Information in ProMetrix will distinguish between loss costs which reflect the effect of limit of insurance (LOI) relativities and pre-LOI loss costs.

- **Toll-free Telephone Service**

Revised loss costs for specifically rated and class-rated properties will be available by calling toll-free 1-800-444-4554 and requesting "Pending" from September 16, 2019 to February 1, 2020. On February 1, 2020, these loss costs will move to "Current" status. The previous "Current" becomes the most recent "Prior" and joins all previously displayed "Priors". With each subsequent loss cost revision, we will make an additional "Prior" available. Information available via toll-free telephone service will distinguish between loss costs which reflect the effect of limit of insurance (LOI) relativities and pre-LOI loss costs.

NOTE: Specific property information is provided for Basic Group I and Basic Group II in this state. However, the eligibility criteria for Basic Group I and Basic Group II are independent and therefore an individual property may be eligible for Basic Group I and/or Basic Group II specific rating.

REFERENCE(S)

- [LI-CF-2019-041](#) (06/12/2019) Commercial Fire And Allied Lines Experience Level Indications Reviewed By ISO Staff
- [LI-CL-2018-044](#) (11/27/2018) Revised Lead Time Requirements Listing

ATTACHMENT(S)

- CF-2019-RLA1
- Actuarial Analysis Supplement
- Excel Workbook

FILES AVAILABLE FOR DOWNLOAD

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

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

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DATA QUALITY

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

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 loss cost review 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.

XACTWARE SOLUTIONS, INC.

This filing incorporates the use of pricing data from Xactware Solutions, Inc., to estimate trends in building costs for commercial properties. Xactware provides computer software solutions for professionals involved in estimating all phases of building construction and repair. The company has been providing building cost data, estimate tracking and data trending to the insurance repair market since 1986. Insurance carriers using Xactware data are responsible for settlement of the majority of property claims in the USA and Canada.

For more information concerning Xactware Solutions, Inc., please see the Contact Information block.

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

TENNESSEE

COMMERCIAL FIRE AND ALLIED LINES INSURANCE PROSPECTIVE LOSS COST LEVEL REVISION EXECUTIVE SUMMARY

PURPOSE

This document:

- revises advisory prospective loss costs. These loss costs represent a +2.7% statewide change from the current ISO loss costs.
 - provides the analyses used to derive the prospective loss costs based on experience through calendar/accident year ending 06/30/2018, evaluated as of 09/30/2018.
-

DEFINITION OF THE ISO PROSPECTIVE LOSS COST

Advisory prospective loss costs in this document are the expected value of that portion of a rate that does not include provisions for expenses (other than loss adjustment expenses) or profit, and are based on historical aggregate losses and loss adjustment expenses adjusted and projected through trending to a future point in time.

LOSS COST LEVEL CHANGES

The statewide monoline prospective loss cost level changes are:

Coverage	Filed
Basic Group I	-1.8%
Basic Group II	+10.2%
Special Causes of Loss	-1.1%
Total	+2.7%

Filed loss cost level changes are changes from the current loss cost level.

PRIOR ISO
REVISIONS

The latest revisions in this state are:

<u>Reference Document or Filing</u>	CF-2018-RLA1	CF-2015-RLA1
<u>Rates/ Loss Costs</u>	Loss Costs	Loss Costs
<u>Dates Implemented</u>	01/01/2019	01/01/2016
<u>Changes</u>		
Basic Group I	+6.7%	+1.4%
Basic Group II	+12.9%	+17.5%
Special Causes of Loss	+7.2%	+6.4%
Total	+8.9%	+7.3%

HISTORICAL
SOURCE DATA

The data used in this revision is:

- Voluntary experience for ISO reporting companies.
 - Five calendar/accident years ending 06/30/2018 for Basic Group I and Special Causes of Loss.
 - Ten calendar/accident years ending 09/30/2018 for Basic Group II.
-

DISTRIBUTION
OF STATEWIDE
MONOLINE
LOSS COST
CHANGES

ISO has distributed the statewide monoline prospective loss cost changes as follows:

- by rating group and territory (where applicable) for Basic Group I.
- by category (building coverage and occupancy type) for Special Causes of Loss.

This has been done based on the experience of each rating group and territory (where applicable), or category for Basic Group I and Special Causes of Loss. Therefore, the resulting changes will vary by rating group and territory (where applicable) for Basic Group I and by category for Special Causes of Loss.

TREND AND
OTHER
ADJUSTMENTS

Loss Trend

For trend purposes, the period of use for this revision is assumed to begin on 01/01/2020. To adjust the loss experience to the levels expected to prevail while the revised loss costs are in effect, trend factors have been applied to the historical incurred losses. These trend factors are based on:

- external cost indices published by the U.S. Government and information provided by Xactware Solutions, Inc.
- changes in multistate average claim costs through fourth quarter 2017.

The "historic" trend factors based on the external indices, i.e. the factors based on historic changes in the indices, vary by year. The latest annual rates of change based on these indices are:

<u>Coverage</u>	<u>Annual Rate of Change</u>
Buildings	3.0%
Contents	1.9%
Time Element	0.9%

Incurred losses are also multiplied by loss trend adjustment factors (LTA's) to reflect trends in claim frequency and claim costs that are different from those exhibited by the external indices. The annual loss trend adjustments are:

<u>Line of Business</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>
Basic Group I	-0.3%	0.7%	2.8%
Basic Group II	0.2%	0.6%	2.6%
Special Causes of Loss	0.2%	0.0%	2.8%

This produces a total annual loss trend of:

<u>Line of Business</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>
Basic Group I	2.7%	2.6%	3.7%
Basic Group II	3.2%	2.5%	3.5%
Special Causes of Loss	3.2%	1.9%	3.7%

Premium Trend

Over time, insureds tend to purchase increased amounts of insurance in order to compensate for inflation, which results in increased premium revenue.

TREND AND
OTHER
ADJUSTMENTS
(cont'd)

In order to reflect this increase in revenue, ISO uses a premium trend procedure. The premium trend factors are based on observed changes in the annual amount of insurance written for BG I renewal policies for a group of selected companies. The selected annual trends in the amount of insurance are:

Buildings	2.6%
Contents	1.6%
Time Element	0.6%

Other Adjustments

Standard actuarial procedures have been used in calculating the loss costs including loss development and the reflection of all loss adjustment expense. In addition, smoothing procedures have been applied to stabilize the effects of large or excess losses.

TEN LARGEST
COMPANY
GROUPS IN
ISO DATA BASE

COMMERCIAL MULTIPERIL - NON-LIABILITY (ASLOB 51)

1. Cincinnati Insurance Company
2. Travelers Indemnity Company
3. Hartford Accident & Indemnity Company
4. Tokio Marine Companies
5. Nationwide Mutual Insurance Company
6. Westfield Insurance Company
7. State Auto Mutual Insurance Company
8. Fireman's Fund Insurance Company
9. Zurich American Insurance Company
10. Country Mutual Insurance Company

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for year ending 12/31/2017 for Annual Statement Line of Business (ASLOB) 51, Commercial Multiperil - Non-liability.

Although ASLOB 51 includes coverages in addition to commercial fire and allied lines, e.g., crime, inland marine, fidelity, the largest percentage of premium volume is due to fire and allied lines (Basic Group I, Basic Group II, and Special Causes of Loss coverages). ASLOB 51 does not include data reported under monoline fire and allied lines (ASLOBs 10 and 21), which includes both commercial and personal property experience.

SIZE OF ISO
DATA BASE

The market share of all insurers reporting to ISO in this state and included in the ratemaking experience underlying this review as measured by Annual Statement Page 15 written premium for year ending 12/31/2017 is:

Commercial Multi-peril - Non-liability (ASLOB 51) – 38.8%

COMPANY
DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the loss costs contained herein are appropriate for its 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 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 projections based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate its own experience in order to determine whether the ISO selected loss costs are appropriate for its use.

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TENNESSEE
COMMERCIAL PROPERTY INSURANCE

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TENNESSEE
COMMERCIAL PROPERTY INSURANCE

SECTION A - SCOPE OF REVISION

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TENNESSEE

TABLE 1 - SUMMARY OF MONOLINE PROSPECTIVE LOSS COST CHANGES (A)

COVERAGE	INDICATIONS	AGGREGATE LOSS COSTS AT CURRENT LEVEL
BASIC GROUP I	-1.8%	31,968,105
TERRITORY 01	-3.7%	
TERRITORY 02	-12.4%	
TERRITORY 08	-0.5%	
BASIC GROUP II	+10.2%	27,330,172
SPECIAL CAUSES OF LOSS	-1.1%	16,229,551
ALL COVERAGES COMBINED	+2.7%	75,527,828

TERRITORY DEFINITIONS

01 Memphis
02 Nashville
08 Balance of State

(A) FOR TREND PURPOSES, THE PERIOD OF USE FOR THIS REVISION IS ASSUMED TO BEGIN ON 01/01/2020.

TENNESSEE

TABLE 2 - BASIC GROUP I PROSPECTIVE LOSS COST CHANGES
BY RATING GROUP AND TERRITORY (A)

RATING GROUP DESCRIPTION	Memphis	Nashville
	INDICATED	INDICATED
01 APARTMENTS	-1.5%	-10.4%
02 OTHER HABITATIONAL	+1.9%	-7.3%
03 RESTAURANTS & BARS	-4.2%	-12.9%
04 OTHER MERCANTILE RISKS	-9.0%	-17.2%
05 PUBLIC BUILDINGS	-2.0%	-10.9%
06 CHURCHES	-0.6%	-9.5%
07 SCHOOLS	-2.0%	-10.9%
08 OFFICES AND BANKS	-5.1%	-13.7%
09 RECREATIONAL FACILITIES	-2.0%	-10.9%
10 HOTELS & MOTELS	+9.8%	-0.1%
11 HOSPITALS & NURSING HOMES	-2.0%	-10.9%
12 BLDGS UNDER CONSTRUCTION	-3.8%	-12.5%
13 MOTOR VEHICLE RISKS	-3.9%	-12.6%
14 OTHER NON-MANUFACTURING	-3.8%	-12.5%
15 STORAGE	-3.0%	-11.7%
17 FOOD MANUFACTURING	-3.3%	-12.0%
18 WOOD MANUFACTURING	-3.2%	-11.9%
19 WEARING APPAREL	-3.8%	-12.4%
20 CHEMICAL MANUFACTURING	-2.6%	-11.4%
21 METAL MANUFACTURING	-3.5%	-12.2%
22 OTHER MANUFACTURING	-3.7%	-12.4%
TOTAL	-3.7%	-12.4%

(A) FOR EACH RATING GROUP, THE LOSS COST CHANGE FOR EACH CSP CLASS IN THE RATING GROUP, BY COVERAGE AND CONSTRUCTION, IS IDENTICAL TO THE OVERALL CHANGE SHOWN FOR THE RATING GROUP.

TENNESSEE

TABLE 2 - BASIC GROUP I PROSPECTIVE LOSS COST CHANGES
BY RATING GROUP AND TERRITORY (A)

RATING GROUP DESCRIPTION	Balance of State (Tennessee)

	INDICATED
01 APARTMENTS	+1.2%
02 OTHER HABITATIONAL	+4.6%
03 RESTAURANTS & BARS	-1.6%
04 OTHER MERCANTILE RISKS	-6.5%
05 PUBLIC BUILDINGS	+0.7%
06 CHURCHES	+2.2%
07 SCHOOLS	+0.7%
08 OFFICES AND BANKS	-2.5%
09 RECREATIONAL FACILITIES	+0.7%
10 HOTELS & MOTELS	+12.8%
11 HOSPITALS & NURSING HOMES	+0.7%
12 BLDGS UNDER CONSTRUCTION	-1.2%
13 MOTOR VEHICLE RISKS	-1.3%
14 OTHER NON-MANUFACTURING	-1.2%
15 STORAGE	-0.3%
17 FOOD MANUFACTURING	-0.6%
18 WOOD MANUFACTURING	-0.5%
19 WEARING APPAREL	-1.1%
20 CHEMICAL MANUFACTURING	+0.1%
21 METAL MANUFACTURING	-0.8%
22 OTHER MANUFACTURING	-1.0%
TOTAL	-0.5%

(A) FOR EACH RATING GROUP, THE LOSS COST CHANGE FOR EACH CSP CLASS IN THE RATING GROUP, BY COVERAGE AND CONSTRUCTION, IS IDENTICAL TO THE OVERALL CHANGE SHOWN FOR THE RATING GROUP.

TENNESSEE

TABLE 3 - SPECIAL CAUSES OF LOSS PROSPECTIVE LOSS COST CHANGES BY CATEGORY

CATEGORY DESCRIPTION	ENTIRE STATE
-----	-----
01 BUILDINGS	+1.9%
02 RES. APTS. AND CONDOS	-6.8%
03 OFFICES	-3.9%
04 MERCANTILE - HIGH	-11.1%
05 MERCANTILE - MEDIUM	-7.6%
06 MERCANTILE - LOW	-6.1%
07 MOTELS AND HOTELS	-4.7%
08 INSTITUTIONAL - HIGH	-6.4%
09 INSTITUTIONAL - LOW	-13.9%
10 INDUST-PROC - HIGH	-3.9%
11 INDUST-PROC - LOW	-4.3%
12 SERVICE - HIGH	-1.6%
13 SERVICE - LOW	-4.4%
14 CONTRACTORS	-1.9%
STATEWIDE TOTAL	-1.1%

**TENNESSEE
TABLE 4**

**POTENTIAL IMPACT OF BG I, BG II, AND SCL MONOLINE REVISIONS
ON COMMERCIAL PACKAGE POLICY**

(1)		(2)	(3)	(4)
TYPE OF POLICY		BASIC GROUP I	BASIC GROUP II	SPECIAL CAUSES OF LOSS

31	MOTEL/HOTEL	+12.3%	+10.2%	+0.6%
32	APARTMENT	+1.3%	+10.2%	-0.5%
33	OFFICE	-3.8%	+10.2%	-0.2%
34	MERCANTILE	-5.4%	+10.2%	-1.6%
35	INSTITUTIONAL	+0.1%	+10.2%	-2.6%
36	SERVICES	-2.6%	+10.2%	+0.2%
37	INDUST/PROCESSING	-2.2%	+10.2%	-0.5%
38	CONTRACTORS	-5.6%	+10.2%	-0.9%

BASIC GROUP I, BASIC GROUP II, AND SPECIAL CAUSES OF LOSS MONOLINE CHANGES BY TYPE OF POLICY (TOP) ARE DISPLAYED. THEY ARE CALCULATED BY TAKING A WEIGHTED AVERAGE OF THE LOSS COST CHANGES BY TERRITORY (WHERE APPLICABLE) AND RATING GROUP (FOR BG I), OR BY CATEGORY (FOR SCL), USING THE LATEST YEAR MULTILINE AGGREGATE LOSS COSTS AS WEIGHTS. BASIC GROUP II MONOLINE CHANGES DO NOT VARY BY TOP BECAUSE THE SAME MONOLINE LOSS COST CHANGE IS APPLIED STATEWIDE.

TENNESSEE
COMMERCIAL PROPERTY INSURANCE

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OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

INTRODUCTION

Commercial Property prospective loss costs are determined by evaluating the adequacy of the current ISO loss costs to pay for our best estimate of losses and all loss adjustment expenses that will be incurred in the prospective (or future) period. This evaluation is done separately for Basic Group I, Basic Group II, and Special Causes of Loss.

STEP 1: DETERMINATION OF INDICATED STATEWIDE LOSS COST LEVEL CHANGE

The first step in this process is the determination of the indicated statewide loss cost level change. This indicated statewide loss cost level change is the average percentage change which must be made to the current ISO loss costs in order to achieve adequacy for the prospective conditions. The percentage changes are presented on the exhibits labeled "Statewide Coverage Loss Cost Level Evaluation".

STEP 2: DISTRIBUTION OF CHANGES

Based on the experience, ISO then distributes the indicated statewide loss cost level change by territory (where applicable), type of policy and rating group for Basic Group I; by type of policy for Basic Group II; and by type of policy and category for Special Causes of Loss.

STEP 3: CALCULATION OF REVISED LOSS COSTS

The last step is the calculation of the prospective ISO loss costs. This is achieved by applying the indicated monoline changes to the current ISO loss costs. For Basic Group I, for those states without BG I rating territories, the statewide loss cost changes by rating group are applied to the current manual loss costs. For those states with rating territories, the Balance of State loss cost changes by rating group are applied to the current manual loss costs. The revised territory multipliers are calculated by multiplying the current territory multipliers by the indicated territory changes. For specifically-rated properties, the appropriate changes are applied to the current experience level adjustment factors and territory multipliers. For Basic Group II, revised loss costs are calculated by applying the indicated statewide monoline change to the current ISO loss costs, and where applicable, adding the hurricane modeled loss costs. For Special Causes of Loss, revised loss costs are calculated by applying the indicated monoline changes by category to the current ISO loss costs.

COMMERCIAL PROPERTY INSURANCE
CALCULATION OF STATEWIDE ADVISORY LOSS COST LEVEL CHANGES IN TABLES 5, 6 AND 7

OBJECTIVE	The objective of this procedure is to determine the indicated statewide advisory loss cost level change. This procedure answers the question: What average percentage change must be made to the current ISO loss costs in order for them to be adequate to cover indemnity losses and all loss adjustment expenses incurred in the prospective period in which the revised loss costs are assumed to be in effect?
DESCRIPTION	<p>This procedure compares the trended and developed incurred losses and loss adjustment expenses with the trended aggregate loss costs at current ISO level. The aggregate loss costs at current level are the amounts that would have been collected for losses and all loss adjustment expenses if the current ISO loss costs had been in effect during the experience period.</p> <p>Experience ratios (losses and all loss adjustment expenses divided by aggregate loss costs, both trended to the prospective experience period) are calculated by year, and a weighted average of the yearly experience ratios is calculated. For Basic Group I (BG I) and Special Causes of Loss (SCL), the five year weights vary by year, giving greater weight to the more recent experience. For Basic Group II (BG II), because of the more volatile nature of the data, the ten individual years are given equal weight.</p> <p>The average experience ratio is then credibility-weighted with the expected experience ratio in order to minimize the impact of random variation in the observed losses. The resulting credibility-weighted experience ratio is the indicated statewide advisory loss cost level change in decimal form.</p>
EXPERIENCE BASE	The experience used in this review is the latest available data reported under the ISO Commercial Statistical Plan for BG I, BG II and SCL. The data are aggregated on an accident year basis.

TENNESSEE
TABLE 5

STATEWIDE BASIC GROUP I
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	EXPERIENCE RATIO (3) / (2)	WEIGHTS
2014	33,960,254	29,814,658	0.878	0.10
2015	34,084,285	26,845,296	0.788	0.15
2016	33,541,555	21,363,357	0.637	0.20
2017	32,363,489	64,802,305	2.002	0.25
2018	31,968,105	23,029,022	0.720	0.30

(6) WEIGHTED EXPERIENCE RATIO	= 1.050
(7) CREDIBILITY	= 0.346
(8) EXPECTED EXPERIENCE RATIO	= 1.009
(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO (0.346 X 1.050) + (0.654 X 1.009)	= 1.023
(10) INDICATED COVERAGE LOSS COST CHANGE	= 1.023
	OR +2.3%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

TENNESSEE
TABLE 6

STATEWIDE BASIC GROUP II
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	EXPERIENCE RATIO (3) / (2)
2009	27,763,744	31,488,162	1.134
2010	29,503,171	24,608,298	0.834
2011	28,340,435	45,132,594	1.593
2012	27,688,384	37,491,082	1.354
2013	27,344,448	29,167,319	1.067
2014	26,472,743	17,378,103	0.656
2015	27,286,381	16,064,888	0.589
2016	26,725,693	11,631,145	0.435
2017	25,398,155	54,893,463	2.161
2018	27,330,172	20,111,538	0.736

(5) WEIGHTED EXPERIENCE RATIO (EQUAL WEIGHTS) = 1.056

(6) CREDIBILITY = 0.499

(7) EXPECTED EXPERIENCE RATIO = 1.014

(8) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 1.035
(0.499 x 1.056) + (0.501 x 1.014)

(9) INDICATED COVERAGE LOSS COST CHANGE = 1.035

OR +3.5%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

TENNESSEE
TABLE 7

STATEWIDE SPECIAL CAUSES OF LOSS
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	EXPERIENCE RATIO (3) / (2)	WEIGHTS
2014	16,419,873	18,677,266	1.137	0.10
2015	16,420,440	16,855,285	1.026	0.15
2016	16,121,852	12,997,567	0.806	0.20
2017	15,521,906	16,959,642	1.093	0.25
2018	16,229,551	14,836,300	0.914	0.30

(6) WEIGHTED EXPERIENCE RATIO = 0.976

(7) CREDIBILITY = 0.346

(8) EXPECTED EXPERIENCE RATIO = 1.012

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 1.000
(0.346 X 0.976) + (0.654 X 1.012)

(10) INDICATED COVERAGE LOSS COST CHANGE = 1.000

OR +0.0%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

EXPLANATORY NOTES TO TABLES 5, 6 AND 7

STATEWIDE BASIC GROUP I, BASIC GROUP II AND
SPECIAL CAUSES OF LOSS COVERAGE LOSS COST LEVEL EVALUATION

COLUMN (1)

EXPERIENCE PERIOD

Experience for the five most recent accident years is used for BG I and SCL.
Experience for the ten most recent accident years is used for BG II.

COLUMN (2)

AGGREGATE LOSS COSTS

Since the objective of the ratemaking procedure is to test the adequacy of the current ISO loss costs, premium data for each year in the experience period are adjusted to the loss cost level which would have been earned had the current loss costs been in effect. This is accomplished by using either an extension-of-exposures (PPR or premium at present rates/loss costs) approach or an on-level approach. Where appropriate, certain reported data elements have been adjusted prior to being used in the calculations.

Extension of Exposures Approach

Where feasible, aggregate loss costs at current level (ALCCL) are developed using an extension-of-exposures approach. That is, the exposure (amount of insurance per \$100) for each policy is multiplied by the current manual loss cost for that state, territory, subline, coverage, construction, occupancy and by any other applicable rating factors, such as limit of insurance factors and deductible relativities.

On-Level Approach

The on-level approach is applied on an individual policy basis. The first step in the process is to multiply the reported premiums by the product of all loss cost level changes that have become effective subsequent to the inception date of the policy. The premiums are divided by the reported Rating Modification Factors and Loss Cost Multipliers to bring them to current ISO monoline manual loss cost level.

For premium records with inception dates prior to the effective date of the implementation of Limit of Insurance (LOI) curves, premiums are multiplied by off-balance factors and limit of insurance factors to bring them to a post-LOI loss cost level.

The on-level approach is used to adjust those premium records which cannot be adjusted using the extension-of-exposures techniques, for example, premium records for Basic Group I specifically-rated properties, for which manual loss costs do not exist. In addition, records failing an exposure edit which checks for a reasonable relationship between reported premium and exposure amount have also been on-leveled.

STATEWIDE BASIC GROUP I, BASIC GROUP II AND
SPECIAL CAUSES OF LOSS COVERAGE LOSS COST LEVEL EVALUATION (cont'd)

COLUMN (2)
(cont'd)

Current IPMF and Prospective Amount of Insurance Levels

Premiums are also adjusted to prospective amount of insurance levels by exposure trend factors to reflect the impact of inflation on the average amount of insurance written (Table 24). After multiline premiums are brought to current ISO monoline manual level, they are further adjusted to implicit package modification factor (IPMF) level by the application of Commercial Package Policy (CPP) IPMF's which vary by the eight CPP types of policy. (Both the adjustments to prospective amount of insurance level and to current IPMF level are done on an aggregate basis.) For a more complete description of the IPMF's and the other premium adjustments, refer to Tables 18 through 20 in the supporting material.

COLUMN (3)

ADJUSTED INCURRED LOSSES

In order to assure the adequacy of the proposed loss cost level, incurred losses are adjusted to reflect the effect of inflation and other trends on loss costs. The adjustment of past losses to prospective levels is accomplished on an individual loss basis by application of current cost factors, loss projection factors and loss trend adjustments (Tables 21 through 23). In addition to adjusting losses to prospective cost level, the effect of inflation on the deductible portion of the loss incurred is reflected.

For each subline, incurred losses are further adjusted by an excess loss procedure which smoothes fluctuations due to large loss occurrences. The procedure removes any losses determined to be excess from the total incurred losses, resulting in normal incurred losses. These normal incurred losses (total - excess) are then multiplied by excess loss factors to calculate adjusted incurred losses (Tables 29 through 32). The resulting adjusted incurred losses are then developed to their ultimate settlement value and loaded by a factor to include all loss adjustment expenses. Loss development factors can be found on Table 28, and loss adjustment expense factors on Table 41. Where appropriate, certain reported data elements have been adjusted prior to being used in the calculations.

COLUMN (4)

EXPERIENCE RATIO

The experience ratio is the ratio of adjusted incurred losses to aggregate loss costs for each year.

STATEWIDE BASIC GROUP I, BASIC GROUP II AND
SPECIAL CAUSES OF LOSS COVERAGE LOSS COST LEVEL EVALUATION (cont'd)

COLUMN (5) - BG I, SCL WEIGHTS

For Basic Group I and Special Causes of Loss, the yearly experience ratios are weighted using weights of 10%, 15%, 20%, 25%, and 30% with the greatest weight assigned to the most recent year. These weights recognize the need to balance stability and responsiveness. The ten Basic Group II experience ratios are equally weighted, each given 10% weight.

LINE (6) - BG I, SCL WEIGHTED EXPERIENCE RATIO
LINE (5) - BG II

For Basic Group I and Special Causes of Loss, the weights are applied to the experience ratios to yield the weighted experience ratio. For Basic Group II, the experience ratios are equally weighted. These weighted experience ratios represent a projection of the experience which would result if future policies were written without a loss cost level revision.

LINE (7) - BG I, SCL CREDIBILITY
LINE (6) - BG II

The standards for 100% credibility are discussed in detail in Tables 33, 33A, and 34 for Basic Group I, Basic Group II, and Special Causes of Loss, respectively.

LINE (8) - BG I, SCL EXPECTED EXPERIENCE RATIO
LINE (7) - BG II

The expected experience ratio is ISO's best prediction of the experience ratio if the actual incurred experience were not available. For this review, we have assumed that the current loss costs were adequate when implemented and will be inadequate for the prospective period only to the extent of the net trend. The expected experience ratio is represented by the net (loss/amount of insurance) trend factor.

LINE (9) - BG I, SCL CREDIBILITY WEIGHTED EXPERIENCE RATIO
LINE (8) - BG II

The credibility weighted experience ratio is a weighted average of the weighted experience ratio (line (6) for BG I and SCL; line (5) for BG II) and the expected experience ratio (line (8) for BG I and SCL; line (7) for BG II) using the credibility factor and its complement as respective weights. For more detailed information regarding the development of the credibility factors, refer to Tables 33, 33A, and 34.

LINE (10) - BG I, SCL INDICATED COVERAGE LOSS COST CHANGE
LINE (9) - BG II

The credibility weighted experience ratio yields the overall coverage loss cost level change for Basic Group I (see Table 5), Basic Group II (see Table 6), and Special Causes of Loss (see Table 7).

COMPOSITION OF THE RATEMAKING DATA BASE

DATA INCLUDED

BASIC GROUP I

- . CSP Subline 010 (Commercial Fire)
- . CSP Subline 015 (Basic Group I, i.e., Fire, Lightning, Explosion, Vandalism, Sprinkler Leakage)
- . CSP Subline 016 (BG I excluding Vandalism)
- . CSP Subline 017 (BG I excluding Sprinkler Leakage)
- . CSP Subline 018 (BG I excluding Vandalism and Sprinkler Leakage)

BASIC GROUP II

- . CSP Subline 020 (Extended Coverage)
- . CSP Subline 025 (Basic Group II, i.e., Windstorm or Hail, Smoke, Aircraft or Vehicles, Riot or Civil Commotion, Sinkhole Collapse and Volcanic Action)
- . CSP Subline 027 (Basic Group II Causes of Loss, i.e., Windstorm or Hail, Smoke, Aircraft or Vehicles, Riot or Civil Commotion, Sinkhole Collapse and Volcanic Action)
- . CSP Subline 029 (Basic Group II Causes of Loss excluding Windstorm or Hail)

SPECIAL CAUSES OF LOSS

- . CSP Subline 028 (All Other Perils Special Coverage Forms & Endorsements)
- . CSP Subline 035 (Causes of Loss Special Form Including Theft)
- . CSP Subline 045 (Causes of Loss Special Form Excluding Theft)

NOTES ON DATA INCLUDED

All CSP data are reviewed for CSP Types of Policy 10 (monoline), 3X, 70, and 7X (multiline).

For BG I, BG II and SCL, the reviewed experience is for property damage and time element coverages (coverage codes 1-7, as well as coverage code 9 reported under pre-simplification sublines 010, 020, and 028).

COMPOSITION OF THE RATEMAKING DATA BASE (cont'd)

<u>DATA EXCLUDED</u>	<u>TYPE OF DATA</u>	<u>BG I</u>	<u>BG II</u>	<u>SCL</u>
	• Non-voluntary experience (e.g. FAIR Plans)	X	X	NA
	• Dwelling experience	X	X	X
	• Farm experience	X	X	NA
	• Countrywide rated risks	X	X	X
	• Highly protected risks	X	X	X
	• Experience for policies with large deductibles	X	X	X

X indicates that experience is excluded.

Separately identifiable terrorism premium and loss records have been excluded from the ratemaking experience.

OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

STEP 2 - DISTRIBUTION OF LOSS COST LEVEL CHANGES

OBJECTIVE	<p>The objective of this procedure is to distribute the indicated statewide loss cost level change for Basic Group I, Basic Group II, and Special Causes of Loss among the various rating variables used in each subline. These procedures are used to answer the question: What percentage change for each rating variable must be made to the current ISO loss costs in order to achieve adequacy for the prospective conditions?</p> <hr/>
BASIC GROUP I	<p>For Basic Group I, a consolidated simultaneous iterative procedure is used to calculate the type of policy, territory and rating group relativities. More detail on this procedure is given in Table 8. The type of policy relativities serve to price Commercial Package policies relative to monoline policies, via the Package Modification Factors (PMF), while the rating group and territory relativities serve to price the various rating groups and territories relative to one another.</p> <p>The indicated monoline loss cost level changes shown on Table 2 are calculated for each rating group/territory combination by taking the product of the monoline type of policy relativity, the rating group relativity, the territory relativity and the statewide loss cost level change.</p> <p>The overall monoline loss cost level change is a weighted average of the rating group/territory combination changes. In calculating this weighted average, the latest year aggregate monoline and multiline combined loss costs at current level are used as weights.</p> <hr/>
BASIC GROUP II	<p>The purpose of the Basic Group II relativity analysis is to determine monoline loss cost level needs, to obtain marginal relativities displayed on Table 12 and to price CPP policies relative to monoline policies via the PMFs. Unlike the BG I and SCL relativity analyses, the BG II relativity analysis does not employ a simultaneous review procedure because the overall loss cost change is distributed across type of policy only. The indicated statewide monoline change is the product of the monoline type of policy relativity times the statewide loss cost level change.</p> <hr/>

OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

STEP 2 - DISTRIBUTION OF LOSS COST LEVEL CHANGES (cont'd)

SPECIAL CAUSES OF LOSS

For Special Causes of Loss, a simultaneous iterative procedure is used as for BG I to arrive at a set of type of policy and category relativities (as displayed on Table 9) that best represent the experience within each state. The type of policy relativities serve to price CPP policies relative to monoline policies via the PMFs, while the category relativities serve to price the various categories relative to one another.

The indicated monoline loss cost level changes are calculated for each category by taking the product of the monoline type of policy relativity, the category relativity and the statewide coverage loss cost change. See Table 9 for the monoline loss cost indications.

The overall monoline loss cost level change is a weighted average of the 14 monoline category changes. In calculating this weighted average, the latest year monoline and multiline combined loss costs at current level are used as weights.

TENNESSEE

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 1.023 OR +2.3%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
10	0.774	0.145	0.964	0.959	
31	0.757	0.066	0.982	0.978	
32	1.114	0.165	1.018	1.014	
33	1.115	0.075	1.008	1.004	
34	1.198	0.279	1.052	1.047	
35	1.029	0.204	1.006	1.002	
36	0.871	0.184	0.975	0.971	
37	0.870	0.182	0.975	0.971	
38	0.903	0.049	0.995	0.991	

RATING GROUP					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.033	0.219	1.007	1.018	-0.4
02	1.212	0.211	1.041	1.053	+3.2
03	0.903	0.204	0.979	0.990	-3.2
04	0.851	0.447	0.930	0.941	-7.7
05	1.054	0.034	1.002	1.013	-1.7
06	1.055	0.302	1.016	1.028	+1.1
07	1.019	0.080	1.002	1.013	-0.7
08	0.911	0.329	0.970	0.981	-3.8
09	1.011	0.148	1.002	1.013	-0.8
10	2.051	0.161	1.123	1.135	+12.3
11	1.044	0.031	1.001	1.013	-0.6
13	0.898	0.170	0.982	0.993	-2.5
14	0.897	0.157	0.983	0.994	-2.4
15	0.940	0.138	0.991	1.003	-1.3
17	0.766	0.043	0.989	1.000	-1.8
18	0.893	0.085	0.990	1.001	-1.7
19	0.728	0.051	0.984	0.995	-2.5
20	0.811	0.020	0.996	1.007	-0.9
21	0.917	0.154	0.987	0.998	-1.7
22	0.890	0.130	0.985	0.996	-1.8

STATEWIDE MONOLINE LOSS COST LEVEL CHANGE -1.8%

TENNESSEE

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)
TERRITORY	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY

Memphis	1.005	0.185	1.001	0.986
Nashville	0.638	0.207	0.911	0.897
Balance of State (Tennessee)	1.040	0.717	1.029	1.013

	(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE

Memphis	-3.7
Nashville	-12.4
Balance of State (Tennessee)	-0.5

LOSS COST CHANGES BY INDIVIDUAL TERRITORY AND RATING GROUP
ARE SHOWN ON TABLE 2.

TENNESSEE

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

EXAMPLE OF AN INDIVIDUAL LOSS COST CHANGE CALCULATION
FOR Memphis

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	+2.3%
TERRITORIAL RELATIVITY	=	0.986
MONOLINE (TOP 10) RELATIVITY	=	0.959
RATING GROUP 01 RELATIVITY	=	1.018

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR RATING GROUP 01

$$= 1.023 \quad \times \quad 0.986 \quad \times \quad 0.959 \quad \times \quad 1.018 \quad = 0.985$$

OR -1.5%

TENNESSEE

TABLE 8 - CALCULATION OF INDICATED TERRITORIAL MULTIPLIERS

(1)	(2)	(3)	(4)
TERRITORY	TERRITORY RELATIVITY	OFF- BALANCE FACTOR	CURRENT TERRITORIAL MULTIPLIER

Memphis	0.986	1.000	1.337
Nashville	0.897	1.000	1.054
Balance of State (Tennessee)	1.013	1.000	1.000

(5)
INDICATED TERRITORIAL MULTIPLIER ((2)X(3)X(4) / (1.013 X 1.000))

Memphis 1.301
Nashville 0.933
Balance of State (Tennessee) 1.000

TENNESSEE

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 1.000 OR +0.0%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
<hr/>					
10	0.989	0.183	0.998	0.989	
31	0.856	0.071	0.989	0.980	
32	0.713	0.127	0.958	0.949	
33	0.592	0.131	0.934	0.925	
34	1.304	0.289	1.080	1.070	
35	1.059	0.301	1.017	1.008	
36	1.023	0.233	1.005	0.996	
37	0.917	0.157	0.986	0.977	
38	0.855	0.087	0.986	0.977	
<hr/>					
CATEGORY					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.078	0.781	1.060	1.030	+1.9
02	0.688	0.082	0.970	0.942	-6.8
03	1.004	0.165	1.001	0.972	-3.9
04	0.646	0.177	0.926	0.899	-11.1
05	0.738	0.129	0.962	0.934	-7.6
06	0.732	0.074	0.977	0.949	-6.1
07	0.835	0.041	0.993	0.964	-4.7
08	0.802	0.122	0.973	0.946	-6.4
09	0.588	0.206	0.896	0.871	-13.9
10	1.019	0.041	1.001	0.972	-3.9
11	0.976	0.149	0.996	0.968	-4.3
12	1.155	0.166	1.024	0.995	-1.6
13	0.955	0.087	0.996	0.967	-4.4
14	1.197	0.116	1.021	0.992	-1.9
<hr/>					
OVERALL MONOLINE LOSS COST LEVEL CHANGE					-1.1%
<hr/>					

TENNESSEE

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

EXAMPLE OF A LOSS COST CHANGE CALCULATION

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	+0.0%
MONOLINE (TOP 10) RELATIVITY	=	0.989
CATEGORY 01 RELATIVITY	=	1.030

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR CATEGORY 01

= 1.000	X	0.989	X	1.030	=	1.019
					OR	+1.9%

EXPLANATORY NOTES TO TABLES 8 AND 9

BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

INTRODUCTION

The explanations which follow clarify Tables 8 and 9, the Basic Group I relativity analysis and the Special Causes of Loss relativity analysis, respectively. The purpose of these analyses is to:

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

COLUMN (1)

LEAST SQUARES FORMULA RELATIVITIES

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

The purpose of such a simultaneous review procedure is to arrive at a set of type of policy relativities (which will serve to price CPP policies relative to monoline policies via the PMFs); a set of rating group/territory relativities for Basic Group I; and a set of category relativities for Special Causes of Loss that best represent the experience. This procedure is in contrast to a review of each rating variable's experience separately. Such one-way types of review do not take into account differing percentages of monoline and multiline experience in each rating variable, nor differing percentages of a particular rating variable's experience in the monoline and multiline types of policy. The simultaneous relativity procedure accounts for these different distributions in generating relativities for the various rating variables.

EXPLANATORY NOTES TO TABLES 8 AND 9 (cont'd)

COLUMN (1)
(Cont'd)

The procedure follows an iterative technique to determine a set of marginal relativities by rating variable that is a best fit to the individual cell relativities, with each cell being defined as the cross-section of specific values of each rating variable. The process uses the relativity of the five year experience ratios by rating cell to the overall statewide experience ratio and the latest year aggregate loss costs for each rating cell. (This experience is shown in Table 10 for Basic Group I and Table 11 for Special Causes of Loss.) Specifically, the iteration procedure uses the following formulas:

BASIC GROUP I:

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

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

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

SPECIAL CAUSES OF LOSS:

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

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

EXPLANATORY NOTES TO TABLES 8 AND 9 (cont'd)

COLUMN (1)
(cont'd)

- TOP_i is the relativity for the i th type of policy;
- RG_j is the relativity for the j th rating group;
- CAT_j is the relativity for the j th category;
- TER_k is the relativity for the k th territory;
- W_{ijk} is the loss cost volume at current level for the i th type of policy, j th rating group and k th territory;
- R_{ijk} is the experience ratio relativity for the i th type of policy, j th rating group and k th territory;
- R_{ij} is the experience ratio relativity for the i th type of policy, and j th category;
- m is the number of types of policy in the analysis;
- n is the number of rating groups or categories in the analysis;
- t is the number of territories in the analysis.

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

COLUMN (2)

CREDIBILITY

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

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

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

EXPLANATORY NOTES TO TABLES 8 AND 9 (cont'd)

COLUMN (3)

CREDIBILITY-WEIGHTED RELATIVITIES

Credibility-weighted relativities are calculated based on the formula

$$W = R^Z,$$

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

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

COLUMN (4)

BALANCED RELATIVITIES

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

COLUMN (5)

INDICATED MONOLINE LOSS COST LEVEL CHANGE

For Basic Group I, the indicated monoline loss cost changes are calculated for each rating group and territory by taking the product of the monoline type of policy (TOP 10) relativity, the territory relativity, the rating group relativity and the statewide loss cost level change. (An example of such a calculation appears on Table 8.)

The indicated monoline loss cost changes by rating group shown in Table 8 of this analysis are the aggregate loss cost weighted averages of the monoline loss cost changes for the rating group across all territories.

EXPLANATORY NOTES TO TABLES 8 AND 9 (cont'd)

COLUMN (5)
(cont'd)

Similarly, the indicated monoline loss cost changes by territory shown on the second page are aggregate loss cost-weighted averages of the monoline loss cost changes for the territory across all rating groups. The indicated overall statewide monoline loss cost level change shown at the bottom of the first page of Table 8 is the aggregate loss cost-weighted average of the individual rating group changes across all territories.

For Special Causes of Loss, the indicated monoline loss cost changes are calculated for each category by taking the product of the monoline type of policy (TOP 10) relativity, the category relativity, and the statewide loss cost level change. (An example of such a calculation is included in Table 9.) The indicated overall statewide loss cost level change shown at the bottom of Table 9 is the aggregate loss cost-weighted average of the individual category changes.

In all cases, the loss costs used in these calculations are the latest year's monoline and multiline combined adjusted loss costs.

MULTILINE
CONSIDERATIONS

The type of policy (TOP) relativities are used to generate multiline indications which apply to the current implicit package modification factors (IPMF's). The indicated IPMF's are calculated as follows:

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

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 loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account. If an IPMF has been capped, it is so noted at the bottom of Table 8 and Table 9.

It should be noted that although this procedure generates multiline indications, this filing only addresses monoline loss cost levels. That is, upon implementation of this filing only the monoline loss costs will be revised. The multiline indications developed here will be combined with those of the other component coverages, e.g. GL Premises and Operations in the CPP review for the purpose of revising the package modification factors.

Memphis

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
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10 MONOLINE	01 APARTMENTS	571	7,369	0.000	0.412	0.416
	02 OTHER HABITATIONAL	2,317	15,432	1.230	0.614	0.620
	03 RESTAURANTS & BARS	11,570	80,837	0.846	0.562	0.568
	04 OTHER MERCANTILE RS	65,217	324,748	0.793	0.582	0.588
	05 PUBLIC BUILDINGS	1,461	3,345	0.000	0.413	0.417
	06 CHURCHES	16,493	72,566	1.635	0.714	0.721
	07 SCHOOLS	10,170	90,250	2.173	0.832	0.840
	08 OFFICES AND BANKS	65,065	257,865	0.001	0.357	0.361
	09 REC. FACILITIES	6,241	56,774	0.170	0.432	0.436
	10 HOTELS AND MOTELS	0	363	0.000	0.414	0.418
	11 HOSPITALS/NURS HOME	7,944	57,074	0.000	0.400	0.404
	13 MOTOR VEHICLE RISKS	15,624	77,215	0.400	0.474	0.479
	14 OTHER NON-MANUF.	20,919	84,402	0.000	0.394	0.398
	15 STORAGE	42,017	171,839	0.046	0.385	0.389
	17 FOOD MANUFACTURING	232	1,297	0.000	0.414	0.418
	18 WOOD MANUFACTURING	717	12,379	0.000	0.411	0.415
	20 CHEM. MANUFACTURING	3,863	36,950	0.000	0.405	0.409
	21 METAL MANUFACTURING	9,694	78,704	0.000	0.395	0.399
	22 OTHER MANUFACTURING	666	10,922	0.000	0.411	0.415
	TOTAL*	280,781	1,440,331	0.437	0.477	0.482
31 MULTILINE	10 HOTELS AND MOTELS	46,634	263,862	0.029	0.747	0.755
MOTEL/HOTEL	TOTAL*	46,634	263,862	0.029	0.747	0.755
32 MULTILINE	01 APARTMENTS	134,658	570,568	0.495	0.822	0.830
APARTMENT	02 OTHER HABITATIONAL	130,075	574,842	1.052	1.035	1.045
	TOTAL*	264,733	1,145,410	0.769	0.927	0.936
33 MULTILINE	08 OFFICES AND BANKS	48,669	327,373	2.395	1.441	1.456
OFFICE	TOTAL*	48,669	327,373	2.395	1.441	1.456
34 MULTILINE	03 RESTAURANTS & BARS	127,900	733,887	1.338	1.159	1.171
MERCANTILE	04 OTHER MERCANTILE RS	331,084	1,872,586	1.036	1.032	1.042
	08 OFFICES AND BANKS	10,951	55,511	1.892	1.187	1.199
	13 MOTOR VEHICLE RISKS	44,714	103,013	0.000	0.810	0.818
	14 OTHER NON-MANUF.	7,694	41,345	0.000	0.841	0.849
	15 STORAGE	29,862	180,310	0.110	0.801	0.809
	TOTAL*	552,205	2,986,652	0.975	1.031	1.042

Memphis

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
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35 MULTILINE	02 OTHER HABITATIONAL	2,699	13,773	0.000	0.856	0.865
INSTITUTIONAL	05 PUBLIC BUILDINGS	1,867	10,740	0.000	0.857	0.866
	06 CHURCHES	314,030	1,701,971	0.816	0.900	0.909
	07 SCHOOLS	70,065	281,192	4.056	1.892	1.911
	08 OFFICES AND BANKS	48,972	312,779	0.545	0.882	0.891
	09 REC. FACILITIES	27,693	138,947	0.032	0.800	0.808
	11 HOSPITALS/NURS HOME	15,744	72,754	0.619	0.946	0.956
	13 MOTOR VEHICLE RISKS	205	1,146	0.000	0.862	0.871
	14 OTHER NON-MANUF.	7,886	36,151	0.000	0.844	0.853
	TOTAL*	489,161	2,569,453	1.181	1.035	1.045
36 MULTILINE	03 RESTAURANTS & BARS	15,794	67,637	0.000	1.338	1.352
SERVICES	04 OTHER MERCANTILE RS	51,447	242,975	0.117	1.354	1.368
	08 OFFICES AND BANKS	48,222	278,450	0.805	1.443	1.458
	09 REC. FACILITIES	47,361	270,090	0.082	1.349	1.363
	13 MOTOR VEHICLE RISKS	127,666	619,294	3.874	1.844	1.863
	14 OTHER NON-MANUF.	45,380	195,952	0.000	1.338	1.352
	15 STORAGE	27,399	167,479	0.000	1.338	1.352
	21 METAL MANUFACTURING	4,685	14,171	154.184	21.450	21.667
	22 OTHER MANUFACTURING	5,599	35,500	0.366	1.386	1.400
	TOTAL*	373,553	1,891,548	3.394	1.781	1.799
37 MULTILINE	04 OTHER MERCANTILE RS	22,452	130,985	0.000	1.338	1.352
INDUST/PROCESS	08 OFFICES AND BANKS	3,573	19,704	0.000	1.339	1.353
	13 MOTOR VEHICLE RISKS	0	613	0.000	1.339	1.353
	14 OTHER NON-MANUF.	2,629	11,682	0.000	1.339	1.353
	15 STORAGE	10,916	53,874	0.000	1.338	1.352
	17 FOOD MANUFACTURING	3,936	80,004	0.137	1.356	1.370
	18 WOOD MANUFACTURING	10,382	74,216	0.000	1.338	1.352
	19 WEARING APPAREL	2,211	28,340	0.009	1.340	1.354
	20 CHEM. MANUFACTURING	21,732	82,610	0.000	1.338	1.352
	21 METAL MANUFACTURING	103,406	664,653	1.177	1.492	1.507
	22 OTHER MANUFACTURING	26,637	185,277	0.000	1.338	1.352
	TOTAL*	207,874	1,331,958	0.588	1.415	1.429

Memphis

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
38 MULTILINE	04 OTHER MERCANTILE RS	59,698	370,653	0.278	1.375	1.389
CONTRACTORS	08 OFFICES AND BANKS	26,306	143,827	0.076	1.348	1.362
	14 OTHER NON-MANUF.	3,261	16,740	0.000	1.339	1.353
	TOTAL*	89,265	531,220	0.208	1.366	1.380
TOTAL ALL TOPS*	01 APARTMENTS	135,229	577,937	0.493	0.820	0.829
	02 OTHER HABITATIONAL	135,091	604,047	1.034	1.025	1.035
	03 RESTAURANTS & BARS	155,264	882,361	1.165	1.132	1.144
	04 OTHER MERCANTILE RS	529,898	2,941,947	0.788	1.059	1.070
	05 PUBLIC BUILDINGS	3,328	14,085	0.000	0.662	0.669
	06 CHURCHES	330,523	1,774,537	0.857	0.891	0.900
	07 SCHOOLS	80,235	371,442	3.817	1.758	1.775
	08 OFFICES AND BANKS	251,758	1,395,509	0.814	1.030	1.041
	09 REC. FACILITIES	81,295	465,811	0.072	1.092	1.103
	10 HOTELS AND MOTELS	46,634	264,225	0.029	0.747	0.755
	11 HOSPITALS/NURS HOME	23,688	129,828	0.411	0.763	0.771
	13 MOTOR VEHICLE RISKS	188,209	801,281	2.661	1.484	1.499
	14 OTHER NON-MANUF.	87,769	386,272	0.000	1.025	1.035
	15 STORAGE	110,194	573,502	0.047	0.829	0.837
	17 FOOD MANUFACTURING	4,168	81,301	0.129	1.304	1.317
	18 WOOD MANUFACTURING	11,099	86,595	0.000	1.279	1.291
	19 WEARING APPAREL	2,211	28,340	0.009	1.340	1.354
	20 CHEM. MANUFACTURING	25,595	119,560	0.000	1.198	1.209
	21 METAL MANUFACTURING	117,785	757,528	7.166	2.196	2.218
	22 OTHER MANUFACTURING	32,902	231,699	0.062	1.328	1.341
	TOTAL*	2,352,875	12,487,807	1.262	1.123	1.134

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

Nashville

TENNESSEE

BASIC GROUP I RELATIVITY ANALYSIS

TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 APARTMENTS	22,528	264,407	0.049	0.794	0.802
	02 OTHER HABITATIONAL	43,962	215,799	0.000	0.788	0.796
	03 RESTAURANTS & BARS	63,570	308,109	0.000	0.785	0.793
	04 OTHER MERCANTILE RS	87,394	400,055	2.700	1.218	1.230
	05 PUBLIC BUILDINGS	61,727	62,200	0.000	0.792	0.800
	06 CHURCHES	9,164	57,028	0.641	0.889	0.898
	07 SCHOOLS	6,438	26,736	0.000	0.793	0.801
	08 OFFICES AND BANKS	55,377	214,673	0.159	0.813	0.821
	09 REC. FACILITIES	22,276	92,935	0.421	0.855	0.864
	10 HOTELS AND MOTELS	11,853	53,623	0.000	0.792	0.800
	11 HOSPITALS/NURS HOME	3,971	6,506	0.000	0.793	0.801
	13 MOTOR VEHICLE RISKS	11,920	70,943	0.000	0.792	0.800
	14 OTHER NON-MANUF.	16,031	87,019	8.931	2.152	2.174
	15 STORAGE	20,735	91,347	0.033	0.796	0.804
	17 FOOD MANUFACTURING	4,029	39,952	0.000	0.792	0.800
	18 WOOD MANUFACTURING	8,862	33,858	0.000	0.792	0.800
	19 WEARING APPAREL	11,319	34,895	0.000	0.792	0.800
	20 CHEM. MANUFACTURING	2,497	30,260	0.000	0.793	0.801
	21 METAL MANUFACTURING	5,347	20,041	0.000	0.793	0.801
	22 OTHER MANUFACTURING	2,521	14,728	0.000	0.793	0.801
	TOTAL*	471,521	2,125,114	0.859	0.923	0.933
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	39,718	207,377	0.000	0.572	0.578
	TOTAL*	39,718	207,377	0.000	0.572	0.578
32 MULTILINE APARTMENT	01 APARTMENTS	274,847	1,417,534	0.337	0.607	0.613
	02 OTHER HABITATIONAL	165,323	807,261	0.658	0.683	0.690
	TOTAL*	440,170	2,224,795	0.458	0.635	0.642
33 MULTILINE OFFICE	08 OFFICES AND BANKS	187,746	888,700	0.441	0.638	0.644
	TOTAL*	187,746	888,700	0.441	0.638	0.644
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	182,022	779,063	1.958	0.943	0.953
	04 OTHER MERCANTILE RS	385,572	1,987,079	0.444	0.625	0.631
	08 OFFICES AND BANKS	28,765	128,608	0.000	0.575	0.581
	13 MOTOR VEHICLE RISKS	37,647	138,697	0.026	0.579	0.585
	14 OTHER NON-MANUF.	19,329	108,908	0.037	0.582	0.588
	15 STORAGE	31,652	157,583	0.000	0.574	0.580
	TOTAL*	684,987	3,299,938	0.773	0.702	0.708

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BASIC GROUP I RELATIVITY ANALYSIS

TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	858	4,778	0.000	0.580	0.586
	05 PUBLIC BUILDINGS	4,340	20,852	0.000	0.579	0.585
	06 CHURCHES	196,399	1,072,128	1.900	0.950	0.960
	07 SCHOOLS	58,410	253,758	0.131	0.593	0.599
	08 OFFICES AND BANKS	55,622	335,162	0.000	0.567	0.573
	09 REC. FACILITIES	43,438	160,798	0.142	0.597	0.603
	11 HOSPITALS/NURS HOME	18,352	87,482	0.168	0.604	0.610
	13 MOTOR VEHICLE RISKS	245	2,742	0.000	0.580	0.586
	14 OTHER NON-MANUF.	10,332	48,706	0.092	0.593	0.599
	TOTAL*	387,996	1,986,406	1.008	0.771	0.779
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	10,227	43,877	0.000	0.216	0.218
	04 OTHER MERCANTILE RS	26,767	139,572	0.015	0.215	0.217
	08 OFFICES AND BANKS	56,644	255,086	0.000	0.209	0.211
	09 REC. FACILITIES	91,853	445,929	0.019	0.207	0.209
	13 MOTOR VEHICLE RISKS	59,692	329,739	0.079	0.221	0.223
	14 OTHER NON-MANUF.	76,763	406,222	0.355	0.271	0.274
	15 STORAGE	26,100	102,693	0.000	0.214	0.216
	21 METAL MANUFACTURING	2,860	18,159	0.000	0.217	0.219
	22 OTHER MANUFACTURING	19,184	124,755	0.823	0.339	0.342
	TOTAL*	370,090	1,866,032	0.135	0.231	0.233
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	10,624	64,876	0.000	0.215	0.217
	08 OFFICES AND BANKS	3,710	29,007	4.454	0.840	0.848
	14 OTHER NON-MANUF.	6,187	57,753	0.000	0.215	0.217
	15 STORAGE	0	2,341	0.000	0.217	0.219
	17 FOOD MANUFACTURING	30,985	96,100	4.269	0.849	0.858
	18 WOOD MANUFACTURING	71,320	314,862	0.000	0.208	0.210
	19 WEARING APPAREL	38,033	185,394	0.000	0.211	0.213
	20 CHEM. MANUFACTURING	2,086	6,182	0.000	0.217	0.219
	21 METAL MANUFACTURING	62,011	324,685	0.187	0.240	0.242
	22 OTHER MANUFACTURING	50,754	191,059	0.000	0.211	0.213
	TOTAL*	275,710	1,272,259	0.582	0.297	0.300

Nashville

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

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38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	50,194	287,841	0.086	0.223	0.225
	08 OFFICES AND BANKS	21,099	115,354	0.000	0.214	0.216
	14 OTHER NON-MANUF.	14,183	67,756	0.000	0.215	0.217
	TOTAL*	85,476	470,951	0.051	0.219	0.222
TOTAL ALL TOPS*	01 APARTMENTS	297,375	1,681,941	0.315	0.621	0.627
	02 OTHER HABITATIONAL	210,143	1,027,838	0.518	0.704	0.712
	03 RESTAURANTS & BARS	255,819	1,131,049	1.393	0.875	0.884
	04 OTHER MERCANTILE RS	560,551	2,879,423	0.735	0.654	0.661
	05 PUBLIC BUILDINGS	66,067	83,052	0.000	0.778	0.786
	06 CHURCHES	205,563	1,129,156	1.844	0.947	0.957
	07 SCHOOLS	64,848	280,494	0.118	0.613	0.619
	08 OFFICES AND BANKS	408,963	1,966,590	0.264	0.568	0.574
	09 REC. FACILITIES	157,567	699,662	0.110	0.406	0.410
	10 HOTELS AND MOTELS	51,571	261,000	0.000	0.623	0.629
	11 HOSPITALS/NURS HOME	22,323	93,988	0.138	0.638	0.644
	13 MOTOR VEHICLE RISKS	109,504	542,121	0.052	0.407	0.411
	14 OTHER NON-MANUF.	142,825	776,364	1.205	0.539	0.545
	15 STORAGE	78,487	353,964	0.009	0.513	0.518
	17 FOOD MANUFACTURING	35,014	136,052	3.778	0.842	0.851
	18 WOOD MANUFACTURING	80,182	348,720	0.000	0.272	0.275
	19 WEARING APPAREL	49,352	220,289	0.000	0.345	0.348
	20 CHEM. MANUFACTURING	4,583	36,442	0.000	0.531	0.536
	21 METAL MANUFACTURING	70,218	362,885	0.165	0.281	0.284
	22 OTHER MANUFACTURING	72,459	330,542	0.218	0.265	0.268
	TOTAL*	2,943,414	14,341,572	0.620	0.620	0.626

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

Balance of State (Tennessee)

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 APARTMENTS	57,757	526,733	0.728	0.849	0.858
	02 OTHER HABITATIONAL	173,053	1,087,461	0.985	0.948	0.958
	03 RESTAURANTS & BARS	94,434	416,816	0.194	0.688	0.695
	04 OTHER MERCANTILE RS	472,565	2,529,025	0.413	0.587	0.593
	05 PUBLIC BUILDINGS	68,032	302,322	0.440	0.783	0.791
	06 CHURCHES	60,830	290,964	10.698	3.567	3.603
	07 SCHOOLS	68,793	630,716	0.276	0.674	0.681
	08 OFFICES AND BANKS	343,870	1,598,151	0.383	0.619	0.625
	09 REC. FACILITIES	156,172	782,406	1.123	1.000	1.010
	10 HOTELS AND MOTELS	128,644	602,724	2.863	1.631	1.647
	11 HOSPITALS/NURS HOME	37,200	172,376	0.206	0.754	0.762
	13 MOTOR VEHICLE RISKS	168,644	1,014,096	0.794	0.858	0.867
	14 OTHER NON-MANUF.	195,586	1,000,802	0.885	0.900	0.909
	15 STORAGE	145,641	726,801	0.547	0.767	0.775
	17 FOOD MANUFACTURING	28,412	123,826	5.548	1.869	1.888
	18 WOOD MANUFACTURING	101,937	460,234	0.082	0.642	0.648
	19 WEARING APPAREL	8,909	32,047	0.000	0.763	0.771
	20 CHEM. MANUFACTURING	16,398	73,788	0.000	0.745	0.753
	21 METAL MANUFACTURING	133,638	699,050	0.121	0.602	0.608
	22 OTHER MANUFACTURING	44,144	275,574	0.166	0.715	0.722
	TOTAL*	2,504,659	13,345,912	0.952	0.863	0.871
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	1,308,769	6,548,792	3.386	1.588	1.604
	TOTAL*	1,308,769	6,548,792	3.386	1.588	1.604
32 MULTILINE APARTMENT	01 APARTMENTS	1,881,983	8,437,034	1.259	1.180	1.192
	02 OTHER HABITATIONAL	1,503,919	7,904,803	2.285	1.384	1.398
	TOTAL*	3,385,902	16,341,837	1.715	1.270	1.283
33 MULTILINE OFFICE	08 OFFICES AND BANKS	1,454,712	6,862,185	0.532	1.038	1.048
	TOTAL*	1,454,712	6,862,185	0.532	1.038	1.048
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	1,402,555	7,042,623	0.869	1.103	1.114
	04 OTHER MERCANTILE RS	3,378,985	18,367,483	0.687	1.042	1.053
	08 OFFICES AND BANKS	343,912	1,688,539	0.663	1.077	1.088
	13 MOTOR VEHICLE RISKS	232,832	1,082,554	0.037	0.976	0.986
	14 OTHER NON-MANUF.	229,266	1,114,129	0.523	1.055	1.066
	15 STORAGE	562,774	3,089,197	1.221	1.170	1.182
	TOTAL*	6,150,324	32,384,525	0.745	1.068	1.078

Balance of State (Tennessee)

TENNESSEE
BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
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35 MULTILINE	02 OTHER HABITATIONAL	7,086	46,003	0.294	1.023	1.033
INSTITUTIONAL	05 PUBLIC BUILDINGS	193,013	996,440	0.792	1.100	1.111
	06 CHURCHES	2,501,517	14,142,706	0.942	1.110	1.121
	07 SCHOOLS	477,223	2,176,374	0.548	1.056	1.067
	08 OFFICES AND BANKS	249,981	1,297,700	0.783	1.097	1.108
	09 REC. FACILITIES	179,722	907,003	0.577	1.065	1.076
	11 HOSPITALS/NURS HOME	172,413	871,970	0.805	1.102	1.113
	13 MOTOR VEHICLE RISKS	5,292	35,451	0.682	1.084	1.095
	14 OTHER NON-MANUF.	82,969	526,754	0.108	0.990	1.000
	TOTAL*	3,869,216	21,000,401	0.833	1.097	1.108
36 MULTILINE	03 RESTAURANTS & BARS	148,211	763,125	0.049	0.675	0.682
SERVICES	04 OTHER MERCANTILE RS	288,804	1,603,521	1.281	0.872	0.881
	08 OFFICES AND BANKS	442,328	2,759,310	0.964	0.822	0.830
	09 REC. FACILITIES	847,061	4,099,849	1.255	0.895	0.904
	13 MOTOR VEHICLE RISKS	791,749	4,693,853	0.777	0.784	0.792
	14 OTHER NON-MANUF.	579,936	2,765,073	0.792	0.787	0.795
	15 STORAGE	286,392	1,541,613	0.531	0.742	0.749
	21 METAL MANUFACTURING	9,712	93,208	0.000	0.682	0.689
	22 OTHER MANUFACTURING	96,424	466,068	0.013	0.675	0.682
	TOTAL*	3,490,617	18,785,620	0.887	0.812	0.820
37 MULTILINE	04 OTHER MERCANTILE RS	302,702	1,660,596	0.406	0.720	0.727
INDUST/PROCESS	08 OFFICES AND BANKS	98,199	549,505	0.094	0.685	0.692
	13 MOTOR VEHICLE RISKS	2,095	44,533	0.000	0.683	0.690
	14 OTHER NON-MANUF.	73,286	484,144	3.220	1.136	1.147
	15 STORAGE	35,326	143,374	0.000	0.680	0.687
	17 FOOD MANUFACTURING	290,489	1,455,698	0.084	0.667	0.674
	18 WOOD MANUFACTURING	601,051	2,804,850	0.843	0.798	0.806
	19 WEARING APPAREL	335,341	1,849,755	0.014	0.648	0.655
	20 CHEM. MANUFACTURING	80,720	570,444	0.006	0.672	0.679
	21 METAL MANUFACTURING	924,615	5,389,566	0.874	0.809	0.817
	22 OTHER MANUFACTURING	861,582	4,665,260	0.813	0.793	0.801
	TOTAL*	3,605,406	19,617,725	0.669	0.768	0.776

Balance of State (Tennessee)

TENNESSEE
 BASIC GROUP I RELATIVITY ANALYSIS
 TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	487,949	2,337,712	0.659	0.762	0.770
	08 OFFICES AND BANKS	305,748	1,461,333	1.428	0.895	0.904
	14 OTHER NON-MANUF.	108,514	402,267	0.009	0.676	0.683
	TOTAL*	902,211	4,201,312	0.841	0.797	0.805
TOTAL ALL TOPS*	01 APARTMENTS	1,939,740	8,963,767	1.243	1.170	1.182
	02 OTHER HABITATIONAL	1,684,058	9,038,267	2.143	1.337	1.351
	03 RESTAURANTS & BARS	1,645,200	8,222,564	0.756	1.041	1.051
	04 OTHER MERCANTILE RS	4,931,005	26,498,337	0.676	0.941	0.950
	05 PUBLIC BUILDINGS	261,045	1,298,762	0.700	1.017	1.028
	06 CHURCHES	2,562,347	14,433,670	1.174	1.168	1.180
	07 SCHOOLS	546,016	2,807,090	0.514	1.008	1.018
	08 OFFICES AND BANKS	3,238,750	16,216,723	0.680	0.948	0.958
	09 REC. FACILITIES	1,182,955	5,789,258	1.135	0.934	0.944
	10 HOTELS AND MOTELS	1,437,413	7,151,516	3.339	1.592	1.608
	11 HOSPITALS/NURS HOME	209,613	1,044,346	0.699	1.040	1.051
	13 MOTOR VEHICLE RISKS	1,200,612	6,870,487	0.634	0.833	0.841
	14 OTHER NON-MANUF.	1,269,557	6,293,169	0.786	0.877	0.886
	15 STORAGE	1,030,133	5,500,985	0.892	0.978	0.987
	17 FOOD MANUFACTURING	318,901	1,579,524	0.571	0.774	0.782
	18 WOOD MANUFACTURING	702,988	3,265,084	0.733	0.775	0.783
	19 WEARING APPAREL	344,250	1,881,802	0.014	0.651	0.658
	20 CHEM. MANUFACTURING	97,118	644,232	0.005	0.684	0.691
	21 METAL MANUFACTURING	1,067,965	6,181,824	0.772	0.782	0.790
	22 OTHER MANUFACTURING	1,002,150	5,406,902	0.708	0.778	0.786
	TOTAL*	26,671,816	139,088,309	1.030	1.019	1.030

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

ENTIRE STATE

TENNESSEE

BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 APARTMENTS	80,856	798,509	0.534	0.831	0.839
	02 OTHER HABITATIONAL	219,332	1,318,692	0.790	0.912	0.922
	03 RESTAURANTS & BARS	169,574	805,762	0.166	0.716	0.723
	04 OTHER MERCANTILE RS	625,176	3,253,828	0.772	0.675	0.682
	05 PUBLIC BUILDINGS	131,220	367,867	0.228	0.783	0.791
	06 CHURCHES	86,487	420,558	7.904	2.739	2.767
	07 SCHOOLS	85,401	747,702	0.481	0.702	0.709
	08 OFFICES AND BANKS	464,312	2,070,689	0.303	0.605	0.612
	09 REC. FACILITIES	184,689	932,115	1.006	0.963	0.973
	10 HOTELS AND MOTELS	140,497	656,710	2.621	1.560	1.576
	11 HOSPITALS/NURS HOME	49,115	235,956	0.156	0.700	0.707
	13 MOTOR VEHICLE RISKS	196,188	1,162,254	0.714	0.824	0.832
	14 OTHER NON-MANUF.	232,536	1,172,223	1.360	0.941	0.950
	15 STORAGE	208,393	989,987	0.395	0.693	0.700
	17 FOOD MANUFACTURING	32,673	165,075	4.825	1.726	1.743
	18 WOOD MANUFACTURING	111,516	506,471	0.075	0.652	0.659
	19 WEARING APPAREL	20,228	66,942	0.000	0.779	0.787
	20 CHEM. MANUFACTURING	22,758	140,998	0.000	0.693	0.700
	21 METAL MANUFACTURING	148,679	797,795	0.109	0.596	0.601
	22 OTHER MANUFACTURING	47,331	301,224	0.155	0.715	0.722
	TOTAL*	3,256,961	16,911,357	0.894	0.838	0.847
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	1,395,121	7,020,031	3.177	1.531	1.546
	TOTAL*	1,395,121	7,020,031	3.177	1.531	1.546
32 MULTILINE APARTMENT	01 APARTMENTS	2,291,488	10,425,136	1.104	1.090	1.101
	02 OTHER HABITATIONAL	1,799,317	9,286,906	2.046	1.294	1.307
	TOTAL*	4,090,805	19,712,042	1.518	1.180	1.192
33 MULTILINE OFFICE	08 OFFICES AND BANKS	1,691,127	8,078,258	0.576	1.005	1.015
	TOTAL*	1,691,127	8,078,258	0.576	1.005	1.015
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	1,712,477	8,555,573	1.020	1.090	1.101
	04 OTHER MERCANTILE RS	4,095,641	22,227,148	0.692	1.002	1.012
	08 OFFICES AND BANKS	383,628	1,872,658	0.648	1.042	1.053
	13 MOTOR VEHICLE RISKS	315,193	1,324,264	0.030	0.905	0.914
	14 OTHER NON-MANUF.	256,289	1,264,382	0.471	1.013	1.023
	15 STORAGE	624,288	3,427,090	1.106	1.122	1.133
	TOTAL*	7,387,516	38,671,115	0.765	1.031	1.041

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BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	10,643	64,554	0.196	0.945	0.954
	05 PUBLIC BUILDINGS	199,220	1,028,032	0.767	1.086	1.097
	06 CHURCHES	3,011,946	16,916,805	0.991	1.077	1.089
	07 SCHOOLS	605,698	2,711,324	0.914	1.108	1.119
	08 OFFICES AND BANKS	354,575	1,945,641	0.627	0.984	0.994
	09 REC. FACILITIES	250,853	1,206,748	0.442	0.955	0.964
	11 HOSPITALS/NURS HOME	206,509	1,032,206	0.734	1.046	1.056
	13 MOTOR VEHICLE RISKS	5,742	39,339	0.629	1.055	1.065
	14 OTHER NON-MANUF.	101,187	611,611	0.098	0.938	0.948
	TOTAL*	4,746,373	25,556,260	0.883	1.064	1.074
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	174,232	874,639	0.042	0.708	0.715
	04 OTHER MERCANTILE RS	367,018	1,986,068	1.026	0.891	0.901
	08 OFFICES AND BANKS	547,194	3,292,846	0.850	0.813	0.821
	09 REC. FACILITIES	986,275	4,815,868	1.084	0.852	0.861
	13 MOTOR VEHICLE RISKS	979,107	5,642,886	1.138	0.888	0.897
	14 OTHER NON-MANUF.	702,079	3,367,247	0.693	0.766	0.774
	15 STORAGE	339,891	1,811,785	0.447	0.750	0.757
	21 METAL MANUFACTURING	17,257	125,538	41.861	6.243	6.306
	22 OTHER MANUFACTURING	121,207	626,323	0.158	0.655	0.661
	TOTAL*	4,234,260	22,543,200	1.042	0.847	0.855
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	335,778	1,856,457	0.366	0.745	0.753
	08 OFFICES AND BANKS	105,482	598,216	0.244	0.713	0.720
	13 MOTOR VEHICLE RISKS	2,095	45,146	0.000	0.683	0.690
	14 OTHER NON-MANUF.	82,102	553,579	2.874	1.073	1.084
	15 STORAGE	46,242	199,589	0.000	0.836	0.844
	17 FOOD MANUFACTURING	325,410	1,631,802	0.483	0.693	0.700
	18 WOOD MANUFACTURING	682,753	3,193,928	0.742	0.744	0.752
	19 WEARING APPAREL	375,585	2,063,489	0.013	0.608	0.614
	20 CHEM. MANUFACTURING	104,538	659,236	0.005	0.802	0.809
	21 METAL MANUFACTURING	1,090,032	6,378,904	0.864	0.841	0.850
	22 OTHER MANUFACTURING	938,973	5,041,596	0.746	0.777	0.785
	TOTAL*	4,088,990	22,221,942	0.659	0.769	0.777

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TENNESSEE

BASIC GROUP I RELATIVITY ANALYSIS
TABLE 10 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	597,841	2,996,206	0.573	0.778	0.786
	08 OFFICES AND BANKS	353,153	1,720,514	1.242	0.888	0.897
	14 OTHER NON-MANUF.	125,958	486,763	0.008	0.641	0.648
	TOTAL*	1,076,952	5,203,483	0.726	0.798	0.806
TOTAL ALL TOPS*	01 APARTMENTS	2,372,344	11,223,645	1.084	1.081	1.092
	02 OTHER HABITATIONAL	2,029,292	10,670,152	1.901	1.251	1.264
	03 RESTAURANTS & BARS	2,056,283	10,235,974	0.866	1.027	1.037
	04 OTHER MERCANTILE RS	6,021,454	32,319,707	0.691	0.925	0.934
	05 PUBLIC BUILDINGS	330,440	1,395,899	0.553	0.966	0.976
	06 CHURCHES	3,098,433	17,337,363	1.184	1.124	1.135
	07 SCHOOLS	691,099	3,459,026	0.860	1.058	1.069
	08 OFFICES AND BANKS	3,899,471	19,578,822	0.645	0.914	0.923
	09 REC. FACILITIES	1,421,817	6,954,731	0.960	0.885	0.894
	10 HOTELS AND MOTELS	1,535,618	7,676,741	3.127	1.534	1.549
	11 HOSPITALS/NURS HOME	255,624	1,268,162	0.623	0.979	0.989
	13 MOTOR VEHICLE RISKS	1,498,325	8,213,889	0.846	0.883	0.892
	14 OTHER NON-MANUF.	1,500,151	7,455,805	0.780	0.854	0.862
	15 STORAGE	1,218,814	6,428,451	0.759	0.934	0.943
	17 FOOD MANUFACTURING	358,083	1,796,877	0.879	0.787	0.795
	18 WOOD MANUFACTURING	794,269	3,700,399	0.648	0.731	0.739
	19 WEARING APPAREL	395,813	2,130,431	0.012	0.616	0.623
	20 CHEM. MANUFACTURING	127,296	800,234	0.004	0.782	0.790
	21 METAL MANUFACTURING	1,255,968	7,302,237	1.338	0.886	0.895
	22 OTHER MANUFACTURING	1,107,511	5,969,143	0.656	0.761	0.769
	TOTAL*	31,968,105	165,917,688	1.009	0.990	1.000

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

TENNESSEE

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
TABLE 11 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 BUILDINGS	1,144,998	5,519,961	1.086	1.067	1.068
	02 RES. APTS. AND COND	10,942	61,548	0.265	0.808	0.809
	03 OFFICES	127,205	608,476	0.345	0.711	0.712
	04 MERCANTILE - HIGH	166,025	740,174	0.334	0.686	0.687
	05 MERCANTILE - MEDIUM	50,010	243,858	0.404	0.800	0.801
	06 MERCANTILE - LOW	32,840	158,526	1.827	1.221	1.222
	07 MOTELS AND HOTELS	9,142	42,616	0.443	0.856	0.857
	08 INSTITUTIONAL - HIG	37,742	392,124	0.205	0.698	0.699
	09 INSTITUTIONAL - LOW	47,507	175,209	2.410	1.396	1.397
	10 INDUST-PROC - HIGH	17,255	66,432	0.457	0.854	0.855
	11 INDUST-PROC - LOW	64,593	293,312	0.014	0.660	0.661
	12 SERVICE - HIGH	45,166	243,539	3.908	1.905	1.907
	13 SERVICE - LOW	60,091	306,984	1.212	1.060	1.061
	14 CONTRACTORS	14,299	84,801	0.516	0.864	0.865
	TOTAL*	1,827,815	8,937,560	0.994	1.004	1.005
31 MULTILINE	01 BUILDINGS	496,463	2,432,482	0.910	0.922	0.923
MOTEL/HOTEL	07 MOTELS AND HOTELS	118,206	605,083	0.511	0.714	0.715
	TOTAL*	614,669	3,037,565	0.833	0.882	0.883
32 MULTILINE	01 BUILDINGS	943,510	4,549,858	0.744	0.768	0.769
APARTMENT	02 RES. APTS. AND COND	360,183	1,274,022	0.301	0.490	0.490
	TOTAL*	1,303,693	5,823,880	0.622	0.691	0.692
33 MULTILINE	01 BUILDINGS	833,658	3,855,687	0.582	0.628	0.629
OFFICE	03 OFFICES	481,166	2,162,689	0.543	0.625	0.626
	04 MERCANTILE - HIGH	331	752	0.000	0.867	0.868
	08 INSTITUTIONAL - HIG	197	1,781	0.000	0.866	0.867
	11 INDUST-PROC - LOW	0	59	0.000	1.000	1.000
	12 SERVICE - HIGH	507	2,736	0.000	0.864	0.865
	TOTAL*	1,315,859	6,023,704	0.567	0.627	0.628

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SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
TABLE 11 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	2,275,171	10,926,076	1.425	1.405	1.406
	03 OFFICES	8,024	27,999	2.021	1.135	1.136
	04 MERCANTILE - HIGH	512,468	2,222,350	0.801	0.834	0.835
	05 MERCANTILE - MEDIUM	338,662	1,959,310	0.956	0.960	0.961
	06 MERCANTILE - LOW	204,769	989,830	0.926	0.943	0.944
	08 INSTITUTIONAL - HIG	157	615	0.000	0.868	0.869
	11 INDUST-PROC - LOW	845	3,798	0.000	0.863	0.864
	12 SERVICE - HIGH	7,569	53,860	2.283	1.220	1.221
	13 SERVICE - LOW	4,967	27,436	2.425	1.196	1.197
	14 CONTRACTORS	6,339	27,514	0.041	0.835	0.836
	TOTAL*	3,358,971	16,238,788	1.254	1.242	1.243
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	2,112,080	12,046,667	1.148	1.141	1.142
	03 OFFICES	4,297	15,470	0.587	0.925	0.926
	08 INSTITUTIONAL - HIG	326,883	1,602,607	0.809	0.849	0.850
	09 INSTITUTIONAL - LOW	718,123	3,562,740	0.567	0.618	0.619
	12 SERVICE - HIGH	549	6,848	0.000	0.858	0.859
	13 SERVICE - LOW	1,535	1,674	0.000	0.866	0.867
	14 CONTRACTORS	1,022	5,837	0.000	0.860	0.861
	TOTAL*	3,164,489	17,241,843	0.979	0.992	0.993
36 MULTILINE SERVICES	01 BUILDINGS	1,556,832	7,952,632	1.168	1.103	1.104
	03 OFFICES	9,602	39,091	0.013	0.920	0.921
	04 MERCANTILE - HIGH	10,296	62,423	0.319	0.948	0.949
	05 MERCANTILE - MEDIUM	3,788	16,464	7.432	1.633	1.635
	06 MERCANTILE - LOW	2,021	9,658	0.009	0.923	0.924
	08 INSTITUTIONAL - HIG	15,806	85,531	0.000	0.913	0.914
	09 INSTITUTIONAL - LOW	30,770	142,664	0.000	0.906	0.907
	10 INDUST-PROC - HIGH	2,313	11,673	0.000	0.922	0.923
	11 INDUST-PROC - LOW	5,086	22,023	2.513	1.163	1.164
	12 SERVICE - HIGH	485,450	2,662,077	1.483	1.174	1.175
	13 SERVICE - LOW	216,205	1,089,570	0.771	0.967	0.968
	14 CONTRACTORS	9,006	43,565	0.239	0.942	0.943
	TOTAL*	2,347,175	12,137,371	1.172	1.100	1.101

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SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
TABLE 11 - SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	911,133	4,540,309	0.943	0.986	0.987
	03 OFFICES	1,896	9,677	0.205	0.942	0.943
	04 MERCANTILE - HIGH	6,783	29,859	0.087	0.928	0.929
	05 MERCANTILE - MEDIUM	2,293	3,295	0.000	0.923	0.924
	06 MERCANTILE - LOW	144	1,106	0.000	0.923	0.924
	10 INDUST-PROC - HIGH	113,174	558,456	0.502	0.937	0.938
	11 INDUST-PROC - LOW	444,655	2,316,123	0.639	0.901	0.902
	12 SERVICE - HIGH	756	3,480	1.500	1.064	1.065
	13 SERVICE - LOW	804	3,169	0.000	0.923	0.924
	14 CONTRACTORS	2,716	6,901	8.140	1.692	1.694
	TOTAL*	1,484,354	7,472,375	0.825	0.957	0.959
38 MULTILINE CONTRACTORS	01 BUILDINGS	360,646	1,667,475	0.608	0.911	0.912
	03 OFFICES	26,220	104,453	3.962	1.332	1.333
	04 MERCANTILE - HIGH	53,339	180,176	0.823	0.996	0.997
	05 MERCANTILE - MEDIUM	336	2,029	0.000	0.923	0.924
	06 MERCANTILE - LOW	8,519	33,965	0.667	0.984	0.985
	08 INSTITUTIONAL - HIG	297	981	0.000	0.923	0.924
	11 INDUST-PROC - LOW	211	543	0.000	0.923	0.924
	12 SERVICE - HIGH	1,288	6,370	0.000	0.923	0.924
	13 SERVICE - LOW	2,181	6,578	0.500	0.970	0.971
	14 CONTRACTORS	359,489	1,797,966	1.034	1.023	1.024
	TOTAL*	812,526	3,800,536	0.918	0.981	0.982
TOTAL ALL TOPS*	01 BUILDINGS	10,634,491	53,491,147	1.076	1.079	1.080
	02 RES. APTS. AND COND	371,125	1,335,570	0.300	0.499	0.500
	03 OFFICES	658,410	2,967,855	0.650	0.683	0.684
	04 MERCANTILE - HIGH	749,242	3,235,734	0.686	0.815	0.816
	05 MERCANTILE - MEDIUM	395,089	2,224,956	0.942	0.946	0.947
	06 MERCANTILE - LOW	248,293	1,193,085	1.028	0.981	0.982
	07 MOTELS AND HOTELS	127,348	647,699	0.506	0.724	0.725
	08 INSTITUTIONAL - HIG	381,082	2,083,639	0.714	0.837	0.838
	09 INSTITUTIONAL - LOW	796,400	3,880,613	0.655	0.676	0.676
	10 INDUST-PROC - HIGH	132,742	636,561	0.487	0.926	0.927
	11 INDUST-PROC - LOW	515,390	2,635,858	0.578	0.873	0.874
	12 SERVICE - HIGH	541,285	2,978,910	1.690	1.235	1.236
	13 SERVICE - LOW	285,783	1,435,411	0.884	0.990	0.991
	14 CONTRACTORS	392,871	1,966,584	1.027	1.017	1.018
	TOTAL*	16,229,551	80,713,622	0.981	0.999	1.000

EXPLANATORY NOTES TO TABLES 10 AND 11

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

INTRODUCTION	<p>The experience used in the relativity analysis and displayed on Tables 10 and 11 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 Basic Group I large loss procedure and the Special Causes of Loss excess procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.</p>
COLUMN (1)	<p><u>2018 AGGREGATE LOSS COSTS</u></p> <p>The latest accident year aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulas used in the simultaneous review procedure.</p>
COLUMN (2)	<p><u>2014-2018 AGGREGATE LOSS COSTS</u></p> <p>The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).</p>
COLUMN (3)	<p><u>FIVE-YEAR EXPERIENCE RATIOS</u></p> <p>These are the ratios of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in column (1).</p>
COLUMN (4)	<p><u>CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO</u></p> <p>A credibility procedure is applied to the initial experience ratios in column (3) on a cell-by-cell basis prior to the simultaneous review procedure. The credibility values are calculated using an empirical Bayesian credibility procedure. In the following discussion, cell refers to an individual combination of TOP, rating group or category, and territory (where applicable).</p>

EXPLANATORY NOTES TO TABLES 10 AND 11 (cont'd)

COLUMN (4)
(cont'd)

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

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

COLUMN (5)

WEIGHTED RELATIVITIES

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

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TABLE 12 - BASIC GROUP II RELATIVITY ANALYSIS

INDICATED LOSS COST ADJUSTMENT: +3.5%

	(1) ACCIDENT YEAR ENDING 06/30/18 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	(2) ACCIDENT YEARS 2009-2018 EXPER. RATIO AT CURRENT PMF	(3) FORMULA RELATIVITY (2) / 1.036	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELA- TIVITY E	(7) NORMALIZED FORMULA RELA- TIVITY F	(8) CURRENT IMPLICIT PMF	(9) INDICATED IMPLICIT PMF G	(10) INDIC. LOSS COST ADJUST
MONOLINE	3,223,049	1.184	1.143	0.402	1.057	1.057	1.0649			+10.2%
MULTILINE	24,107,123	1.016	0.981	0.844	0.984	0.984	0.9909			+2.6%
COVERAGE	27,330,172	1.036	1.000			0.9926 B	0.9996			+3.5%
MULTILINE TOP										
31 MOTEL/HOTEL	903,762	1.564	1.510	0.163	1.083	1.081	1.0891	1.157	1.183	+12.8%
32 APARTMENT	2,266,265	1.154	1.114	0.313	1.036	1.034	1.0417	0.920	0.900	+7.9%
33 OFFICE	1,480,811	0.764	0.737	0.203	0.947	0.945	0.9520	0.713	0.637	-1.4%
34 MERCANTILE	6,422,581	0.920	0.888	0.560	0.937	0.935	0.9420	0.894	0.791	-2.4%
35 INSTITUTIONAL	6,795,740	1.031	0.995	0.646	0.997	0.995	1.0024	0.990	0.932	+3.8%
36 SERVICES	3,598,431	1.058	1.021	0.447	1.009	1.007	1.0145	0.884	0.842	+5.1%
37 INDUST/PROCESS	2,017,297	0.987	0.953	0.314	0.985	0.983	0.9903	0.740	0.688	+2.6%
38 CONTRACTORS	622,236	0.987	0.953	0.126	0.994	0.992	0.9994	0.654	0.614	+3.5%
	24,107,123	1.016 B	0.981		0.986 B	0.984 B	0.9909 B			+2.6%

B - AVERAGE WEIGHTED BY COLUMN (1)

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

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

E - $(6) = (5) * (0.984 / 0.986)$

F - $(7) = (6) / 0.9926$

G - $(9) = (7) * (8) / (1.0649)$

EXPLANATORY NOTES TO TABLE 12

BASIC GROUP II RELATIVITY ANALYSIS

INTRODUCTION

The explanations which follow clarify Table 12, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:

- (1) determine the monoline loss cost level need;
- (2) determine indicated changes to the eight CPP package modification factors (PMFs) based on Basic Group II experience.

COLUMN (1)

2018 AGGREGATE LOSS COSTS

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

COLUMN (2)

2009 - 2018 EXPERIENCE RATIO

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

COLUMN (3)

FORMULA RELATIVITY

The formula relativities are the ratios of the ten year experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year experience ratio for monoline and multiline combined. These relativities represent how much better or worse than average the experience for a given type of policy is. Again, any totals which are shown are weighted averages and the display of a dash indicates that the resulting IPMF was capped. Unlike the BG I and SCL relativity analyses, the BG II 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.

EXPLANATORY NOTES TO TABLE 12 (cont'd)

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 aggregate adjusted 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 in column (9) and the monoline balanced formula relativity in column (6), divided by the current IPMF in column (8).

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)

CURRENT IMPLICIT PMF

This is the current IPMF for each multiline type of policy.

EXPLANATORY NOTES TO TABLE 12 (cont'd)

COLUMN (9)

INDICATED IMPLICIT PMF

The indicated IPMF is calculated from the normalized relativities as follows:

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

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 redone to take this into account. If an IPMF has been capped it is so noted in footnote A.

COLUMN (10)

INDICATED LOSS COST CHANGES

The indicated monoline and multiline (by TOP) changes are calculated by taking the product of the statewide loss cost level change and the corresponding TOP relativity.

The overall multiline loss cost level change is the aggregate loss cost weighted average of all multiline TOP loss cost level changes.

MULTILINE
CONSIDERATIONS

It should be noted that although this procedure generates multiline indications, this filing only addresses monoline loss cost levels. That is, upon implementation of this filing only the monoline loss costs will be revised. The multiline indications developed here will be combined with those of the other component coverages, e.g. GL Premises and Operations in the CPP review for the purpose of revising the package modification factors.

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SECTION C - SCOPE OF REVISION

Overview	C2-3
Loss Cost/Rate Level Histories (Tables 13 - 17)	C4-14
Commercial Package Policy Implicit Package Modification Factors (IPMF's) and IPMF Caps (Tables 18 - 20)	C15-19
Trend Procedure (Tables 21 - 27)	C20-42
Loss Development Procedure (Table 28)	C43-47
Excess Loss Procedure (Tables 29 - 32)	C48-61
Credibility (Tables 33, 33A, and 34)	C62-67

OVERVIEW

AGGREGATE LOSS COSTS AT CURRENT LEVEL

Tables 13, 14 and 15 provide the overall loss cost/rate level histories for Basic Group I, Basic Group II, and Special Causes of Loss respectively. These tables, along with Tables 16 and 17, provide information on the on-level factors needed to bring collected aggregate loss costs to current loss cost level.

Table 16 provides rate level/loss cost level histories by rating id (class vs. specific), rating group, and territory (where applicable) for Basic Group I, while Table 17 provides rate level/loss cost level histories by category for Special Causes of Loss. These tables can be used to develop on-level factors appropriate to bring collected aggregate loss costs up to current loss cost level. Factors based on these tables are more appropriate for company use than the overall factors shown on Tables 13 and 15 if the company's mix of business differs substantially from the industrywide average. For example, if a company's business is very heavily concentrated in a single class or territory, it is more appropriate to use the rate level/loss cost history for that class rather than the overall average to develop on-level factors.

Tables 18, 19 and 20 provide the current implicit package modification factors (IPMFs) and IPMF caps for Basic Group I, Basic Group II and Special Causes of Loss.

ADJUSTMENTS TO LOSSES

The loss projection factors, current cost factors, and loss trend adjustments shown on Tables 21, 22 and 23 reflect the combined impact of all economic influences on Commercial Property underwriting results and are used to project past underwriting results to future loss levels. They are intended to reflect the impact of inflation on loss payments, the impact of higher costs due to repairs done on an "emergency" basis, the impact of coinsurance and relative insurance to value on loss payments, and any other economic influences which can affect underwriting losses but for which specific provisions are not made. Losses have also been developed to their ultimate settlement value using factors shown on Table 28.

CREDIBILITY

Credibility, Z , is a weight given to the most recent body of data. The complement of credibility, $1-Z$, is the weight assigned to net trend. The final estimate is a weighted average obtained by using the formula $C = Z \times R + (1-Z) \times N$, where

Z = credibility

C = final estimate

R = estimate based on the most recent data

N = net trend

OVERVIEW (cont'd)

CREDIBILITY (cont'd)

Credibility may range from 0 to 1, where $Z=1$ is full credibility and $Z=0$ is no credibility. The actual numerical value of Z is calculated by considering how the state's volume of experience compares with the full credibility standard. Credibility is capped at 25% if the credibility calculated is less than 25%. See Tables 33, 33A, and 34 for a complete explanation of the credibility standards for Basic Group I, Basic Group II, and Special Causes of Loss.

LOSS COST/RATE LEVEL HISTORY

Loss cost/rate level histories are provided for Basic Group I, Basic Group II and Special Causes of Loss. The loss cost/rate level changes are then further split out by rating territory, rating group or category since a company's business may be more heavily concentrated in a single class. These histories can be used to develop on-level factors appropriate to bring collected aggregate loss costs up to current loss cost levels.

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TABLE 13

BASIC GROUP I

HISTORY OF STATEWIDE LOSS COST/RATE LEVEL CHANGES

LOSS COST/RATE LEVEL HISTORY				
(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2000-05-01	-8.2	0.918	0.420	0.671
2002-01-01	-12.1	0.807	0.478	1.000
2003-05-01	-4.3	0.772	0.500	0.671
2004-02-01	-22.5	0.598	0.645	0.915
2006-01-01	-8.5	0.548	0.704	1.000
2009-01-01	-6.0	0.515	0.750	1.000
2010-01-01	-4.5	0.492	0.785	1.000
2011-04-01	-13.3	0.426	0.906	0.753
2012-04-01	-16.7	0.355	1.087	0.751
2014-04-01	0.6	0.357	1.081	0.753
2016-01-01	1.4	0.362	1.066	1.000
2019-01-01	6.7	0.386	1.000	1.000

TIME ELEMENT ONLY LOSS COST LEVEL HISTORY				
(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2013-04-01	-13.1	0.869	1.000	0.753

* WEIGHT DENOTES THE PORTION OF THE EFFECTIVE YEAR FOR WHICH THE ADJUSTMENT FACTORS APPLY.

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TABLE 14

BASIC GROUP II

HISTORY OF STATEWIDE LOSS COST/RATE LEVEL CHANGES

LOSS COST/RATE LEVEL HISTORY				
(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2000-05-01	0.8	1.008	1.252	0.671
2002-01-01	9.9	1.108	1.139	1.000
2003-05-01	-8.2	1.017	1.241	0.671
2004-02-01	0.2	1.019	1.238	0.915
2006-01-01	14.4	1.166	1.082	1.000
2009-01-01	-7.0	1.084	1.164	1.000
2010-01-01	-9.1	0.985	1.281	1.000
2011-04-01	-11.3	0.874	1.444	0.753
2012-04-01	0.0	0.874	1.444	0.751
2014-04-01	8.8	0.951	1.327	0.753
2016-01-01	17.5	1.117	1.130	1.000
2019-01-01	12.9	1.262	1.000	1.000

TIME ELEMENT ONLY LOSS COST LEVEL HISTORY				
(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2013-04-01	-13.3	0.867	1.000	0.753

* WEIGHT DENOTES THE PORTION OF THE EFFECTIVE YEAR FOR WHICH THE ADJUSTMENT FACTORS APPLY.

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TABLE 15

SPECIAL CAUSES OF LOSS

HISTORY OF STATEWIDE LOSS COST/RATE LEVEL CHANGES

LOSS COST/RATE LEVEL HISTORY				
(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2000-05-01	-22.6	0.774	0.960	0.671
2002-01-01	-1.3	0.764	0.973	1.000
2003-05-01	-10.0	0.688	1.080	0.671
2004-02-01	-0.4	0.685	1.085	0.915
2006-01-01	4.3	0.714	1.041	1.000
2009-01-01	-15.3	0.605	1.228	1.000
2010-01-01	-8.1	0.556	1.336	1.000
2011-04-01	-0.3	0.554	1.341	0.753
2012-04-01	5.9	0.587	1.266	0.751
2014-04-01	11.0	0.652	1.140	0.753
2016-01-01	6.4	0.693	1.072	1.000
2019-01-01	7.2	0.743	1.000	1.000

TIME ELEMENT ONLY LOSS COST LEVEL HISTORY

(1)	(2)	(3)	(4)	(5)
EFFECTIVE DATE	LOSS COST/ RATE LEVEL CHANGE (%)	LOSS COST/ RATE LEVEL INDEX	ADJUSTMENT FACTOR	WEIGHT*
2013-04-01	-25.0	0.750	1.000	0.753

* WEIGHT DENOTES THE PORTION OF THE EFFECTIVE YEAR FOR WHICH THE ADJUSTMENT FACTORS APPLY.

EXPLANATORY NOTES TO TABLES 13, 14 AND 15

LOSS COST/RATE LEVEL HISTORIES

COLUMN (1) EFFECTIVE DATE

The effective dates of the latest loss cost/rate level changes are shown.

COLUMN (2) LOSS COST/RATE LEVEL CHANGE

The overall loss cost/rate level change is shown in percent form.

COLUMN (3) LOSS COST/RATE LEVEL INDEX

The product of all loss cost/rate level changes up to and including the loss cost/rate change for that effective date is used to calculate on level factors.

COLUMN (4) WRITTEN ADJUSTMENT (ON LEVEL) FACTORS

The factors are used to bring individual policies with inception dates prior to the effective date up to current loss cost level. For Basic Group II these are the actual factors used. However, the loss cost/rate changes for Basic Group I vary by rating group and territory (where applicable), while the loss cost/rate level changes for Special Causes of Loss vary by category. Consequently, for these coverages the on-level factors represent average factors and are not the factors actually used to adjust the aggregate loss costs on an individual policy basis. For complete loss cost/rate level histories by rating group and territory (where applicable) for Basic Group I and by category for Special Causes of Loss refer to Tables 16 and 17.

COLUMN (5) WEIGHT

The weight indicates the portion of the effective year for which the on level factors apply. These can be used to calculate average yearly factors.

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TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Memphis

EFFECTIVE DATE	RATING ID	RATING GROUP																				
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	17	18	19	20	21	22
01-01-2006	SPEC.	-3.3	-2.6	-4.2	-13.8	-5.7	-2.8	-7.0	-6.8	-4.3	-6.0	-4.5	-6.0	-6.9	-6.6	-7.6	-6.6	-9.8	-4.6	-6.2	-0.2	-7.2
	CLASS	11.6	12.5	10.7	-0.5	9.0	12.3	7.5	7.7	10.6	8.5	10.3	8.5	7.6	7.9	6.7	7.9	-9.8	10.1	-6.2	-0.2	7.1
01-01-2009	SPEC.	-4.0	-15.3	-10.3	-0.1	-1.6	4.0	1.1	-3.5	-2.2	9.7	1.9	-1.5	-4.4	-2.6	-6.4	-1.9	-2.4	-1.8	-1.9	-0.2	-0.5
	CLASS	-1.8	-13.3	-8.2	2.2	0.6	6.5	3.4	-1.3	0.0	12.3	4.3	0.8	-2.2	-0.4	-4.3	0.3	-2.4	0.4	-1.9	-0.2	1.8
01-01-2010	SPEC.	-4.5	-6.8	-8.7	-3.6	-2.1	2.9	-2.1	-5.4	-3.5	11.7	1.4	-1.8	-4.2	-3.2	-5.2	-2.3	-3.3	-1.1	-2.2	-0.9	-1.3
	CLASS	-7.6	-9.9	-11.7	-6.8	-5.4	-0.5	-5.4	-8.6	-6.7	8.0	-2.0	-5.1	-7.4	-6.4	-8.4	-5.6	-3.3	-4.4	-2.2	-0.9	-4.6
04-01-2011	SPEC.	-23.7	-27.3	-32.9	-19.7	-22.4	-19.0	-18.5	-24.8	-22.1	-12.2	-21.7	-22.0	-24.2	-23.0	-27.8	-22.6	-22.5	-20.7	-22.2	-22.5	-19.6
	CLASS	-19.5	-23.3	-29.2	-15.3	-18.1	-14.6	-14.0	-20.7	-17.9	-7.4	-17.4	-17.7	-20.0	-18.8	-23.9	-18.4	-22.5	-16.3	-22.2	-22.5	-15.2
04-01-2012	SPEC.	-7.7	-1.8	-22.2	-21.2	-11.2	-21.1	-9.6	-21.7	-10.6	14.8	-9.9	-12.7	-20.4	-12.7	-22.1	-14.3	-15.9	-11.1	-12.0	-17.4	-8.5
	CLASS	-0.8	5.5	-16.4	-15.3	-4.6	-15.2	-2.9	-15.9	-3.9	23.3	-3.2	-6.3	-14.5	-6.3	-16.3	-7.9	-15.9	-4.5	-12.0	-17.4	-1.8
04-01-2014	SPEC.	14.7	18.1	12.8	13.5	14.0	21.3	14.2	11.2	13.0	14.2	14.2	14.3	10.4	14.3	11.0	13.5	13.9	14.6	14.3	13.4	14.4
	CLASS	2.1	5.1	0.5	1.1	1.5	8.0	1.7	-1.0	0.6	1.7	1.7	1.8	-1.7	1.8	-1.2	1.1	13.9	2.0	14.3	13.4	1.9
01-01-2016	SPEC.	6.2	10.9	8.4	7.7	8.8	13.1	8.7	6.4	7.9	11.6	8.9	10.3	10.1	10.3	9.0	8.4	8.6	8.2	9.0	9.2	9.2
	CLASS	7.5	12.2	9.7	9.0	10.1	14.5	10.0	7.7	9.2	13.0	10.2	11.6	11.4	11.6	10.3	9.7	8.6	9.5	9.0	9.2	10.5
01-01-2019	SPEC.	7.3	17.1	6.3	-8.0	5.0	6.3	4.4	2.6	6.0	6.7	5.0	3.9	3.7	3.9	8.0	3.1	1.1	2.6	4.0	2.3	1.7
	CLASS	7.3	17.1	6.3	-8.0	5.0	6.3	4.4	2.6	6.0	6.7	5.0	3.9	3.7	3.9	8.0	3.1	1.1	2.6	4.0	2.3	1.7

TENNESSEE
TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Nashville

EFFECTIVE DATE	RATING ID	RATING GROUP																				
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	17	18	19	20	21	22
01-01-2006	SPEC.	-12.3	-11.6	-13.0	-21.8	-14.4	-11.8	-15.6	-15.4	-13.1	-14.7	-13.3	-14.7	-15.5	-15.2	-16.2	-15.2	-18.2	-13.5	-14.9	-9.4	-15.8
	CLASS	1.3	2.1	0.4	-9.7	-1.1	1.9	-2.5	-2.3	0.3	-1.5	0.1	-1.5	-2.4	-2.1	-3.2	-2.1	-18.2	-0.1	-14.9	-9.4	-2.8
01-01-2009	SPEC.	-2.9	-14.3	-9.3	1.1	-0.5	5.2	2.2	-2.4	-1.1	11.0	3.0	-0.3	-3.3	-1.5	-5.4	-0.8	-1.3	-0.7	-0.8	1.0	0.7
	CLASS	-0.7	-12.3	-7.1	3.4	1.8	7.7	4.6	-0.1	1.2	13.5	5.4	2.0	-1.1	0.8	-3.2	1.5	-1.3	1.6	-0.8	1.0	3.0
01-01-2010	SPEC.	5.2	2.6	0.6	6.1	7.7	13.3	7.7	4.1	6.2	23.0	11.6	8.1	5.5	6.6	4.3	7.5	6.5	8.8	7.6	9.1	8.6
	CLASS	1.7	-0.8	-2.8	2.6	4.2	9.5	4.2	0.6	2.7	18.9	7.9	4.5	2.0	3.0	0.8	3.9	6.5	5.2	7.6	9.1	5.0
04-01-2011	SPEC.	-15.6	-19.5	-25.7	-11.2	-14.1	-10.4	-9.8	-16.8	-13.8	-2.8	-13.3	-13.7	-16.1	-14.8	-20.1	-14.4	-14.3	-12.2	-13.9	-14.2	-11.0
	CLASS	-10.9	-15.1	-21.7	-6.3	-9.4	-5.5	-4.9	-12.2	-9.1	2.5	-8.6	-8.9	-11.5	-10.1	-15.8	-9.7	-14.3	-7.4	-13.9	-14.2	-6.1
04-01-2012	SPEC.	-11.3	-5.6	-25.2	-24.2	-14.7	-24.1	-13.1	-24.7	-14.0	10.4	-13.4	-16.1	-23.5	-16.1	-25.1	-17.6	-19.2	-14.5	-15.4	-20.6	-12.1
	CLASS	-4.7	1.4	-19.6	-18.6	-8.3	-18.5	-6.7	-19.1	-7.6	18.5	-6.9	-9.9	-17.8	-9.9	-19.5	-11.5	-19.2	-8.2	-15.4	-20.6	-5.5
04-01-2014	SPEC.	5.9	9.1	4.2	4.8	5.2	12.0	5.5	2.7	4.3	5.5	5.5	5.6	2.0	5.6	2.5	4.8	5.1	5.8	5.6	4.7	5.7
	CLASS	-5.7	-2.9	-7.2	-6.7	-6.3	-0.3	-6.1	-8.6	-7.1	-6.1	-6.1	-6.0	-9.2	-6.0	-8.7	-6.7	5.1	-5.8	5.6	4.7	-5.9
01-01-2016	SPEC.	-8.2	-4.1	-6.3	-6.8	-5.9	-2.1	-6.0	-8.0	-6.7	-3.5	-5.8	-4.6	-4.8	-4.6	-5.7	-6.3	-6.1	-6.4	-5.7	-5.5	-5.5
	CLASS	-7.1	-3.0	-5.2	-5.7	-4.8	-1.0	-4.9	-6.9	-5.5	-2.3	-4.7	-3.4	-3.6	-3.4	-4.6	-5.2	-6.1	-5.2	-5.7	-5.5	-4.4
01-01-2019	SPEC.	5.5	15.2	4.5	-9.5	3.3	4.5	2.7	0.9	4.3	4.9	3.3	2.2	2.0	2.2	6.2	1.4	-0.6	0.9	2.3	0.5	0.0
	CLASS	5.5	15.2	4.5	-9.5	3.3	4.5	2.7	0.9	4.3	4.9	3.3	2.2	2.0	2.2	6.2	1.4	-0.6	0.9	2.3	0.5	0.0

TENNESSEE
TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Balance of State (Tennessee)

EFFECTIVE DATE	RATING ID	RATING GROUP																				
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	17	18	19	20	21	22
01-01-2006	SPEC.	-13.4	-12.8	-14.2	-22.8	-15.5	-12.9	-16.7	-16.5	-14.2	-15.8	-14.4	-15.8	-16.6	-16.3	-17.2	-16.3	-19.2	-14.6	-16.0	-10.6	-16.9
	CLASS	0.0	0.8	-0.9	-10.9	-2.4	0.6	-3.8	-3.6	-1.0	-2.8	-1.2	-2.8	-3.7	-3.4	-4.4	-3.4	-19.2	-1.3	-16.0	-10.6	-4.0
01-01-2009	SPEC.	-10.4	-20.9	-16.3	-6.8	-8.2	-2.9	-5.7	-10.0	-8.8	2.4	-4.9	-8.1	-10.8	-9.1	-12.7	-8.5	-9.0	-8.4	-8.5	-6.9	-7.1
	CLASS	-8.3	-19.1	-14.3	-4.6	-6.1	-0.7	-3.5	-7.9	-6.7	4.8	-2.7	-5.9	-8.7	-7.0	-10.7	-6.4	-9.0	-6.3	-8.5	-6.9	-5.0
01-01-2010	SPEC.	-5.4	-7.7	-9.6	-4.5	-3.1	1.9	-3.1	-6.4	-4.5	10.6	0.4	-2.8	-5.1	-4.2	-6.2	-3.3	-4.3	-2.1	-3.2	-1.8	-2.3
	CLASS	-8.6	-10.8	-12.6	-7.7	-6.3	-1.5	-6.3	-9.5	-7.6	6.9	-3.0	-6.0	-8.3	-7.4	-9.3	-6.5	-4.3	-5.4	-3.2	-1.8	-5.6
04-01-2011	SPEC.	-17.3	-21.2	-27.2	-13.0	-15.9	-12.2	-11.6	-18.5	-15.6	-4.8	-15.1	-15.4	-17.8	-16.5	-21.8	-16.1	-16.0	-14.0	-15.7	-15.9	-12.8
	CLASS	-12.8	-16.9	-23.3	-8.2	-11.3	-7.4	-6.8	-14.0	-11.0	0.4	-10.5	-10.8	-13.3	-12.0	-17.5	-11.5	-16.0	-9.3	-15.7	-15.9	-8.1
04-01-2012	SPEC.	-13.5	-8.0	-27.1	-26.1	-16.8	-26.1	-15.3	-26.6	-16.2	7.6	-15.6	-18.3	-25.4	-18.3	-27.0	-19.7	-21.3	-16.7	-17.5	-22.6	-14.3
	CLASS	-7.1	-1.2	-21.7	-20.7	-10.7	-20.6	-9.1	-21.2	-10.0	15.5	-9.3	-12.2	-19.9	-12.2	-21.6	-13.7	-21.3	-10.5	-17.5	-22.6	-7.9
04-01-2014	SPEC.	8.2	11.4	6.4	7.1	7.5	14.4	7.7	4.9	6.5	7.7	7.7	7.8	4.2	7.8	4.7	7.1	7.4	8.1	7.8	7.0	7.9
	CLASS	-3.7	-0.8	-5.2	-4.7	-4.3	1.9	-4.1	-6.6	-5.1	-4.1	-4.1	-4.0	-7.3	-4.0	-6.8	-4.7	7.4	-3.8	7.8	7.0	-3.9
01-01-2016	SPEC.	-1.9	2.4	0.1	-0.5	0.5	4.6	0.4	-1.7	-0.3	3.2	0.6	1.9	1.7	1.9	0.7	0.1	0.3	0.0	0.7	0.9	0.9
	CLASS	-0.7	3.7	1.3	0.7	1.7	5.8	1.6	-0.5	0.9	4.4	1.9	3.2	3.0	3.2	2.0	1.3	0.3	1.2	0.7	0.9	2.2
01-01-2019	SPEC.	12.7	23.1	11.7	-3.3	10.4	11.7	9.7	7.8	11.5	12.1	10.4	9.2	9.0	9.2	13.5	8.3	6.3	7.8	9.3	7.5	6.9
	CLASS	12.7	23.1	11.7	-3.3	10.4	11.7	9.7	7.8	11.5	12.1	10.4	9.2	9.0	9.2	13.5	8.3	6.3	7.8	9.3	7.5	6.9

EXPLANATORY NOTES TO TABLE 16

HISTORY OF BASIC GROUP I LOSS COST/RATE CHANGES
BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY

The loss cost/rate level changes shown apply to the rating territory shown here.

EFFECTIVE DATE

The effective dates of the latest loss cost/rate level changes are shown.

LOSS COST/RATE LEVEL CHANGES

Loss cost/rate level changes are shown in percent form for each rating group.

TENNESSEE
TABLE 17

SPECIAL CAUSES OF LOSS

HISTORY OF LOSS COST/RATE LEVEL CHANGES BY CATEGORY

(1) EFFECTIVE DATE	(2) CATEGORY													
	01	02	03	04	05	06	07	08	09	10	11	12	13	14
02-27-1998	-1.3	-12.7	10.7	-9.3	-5.2									
05-01-1999	9.5	-4.7	-2.4	-8.6	-10.9									
05-01-2000	-19.3	-27.8	-27.9	-31.1	-23.1									
01-01-2002	-6.0	-3.8	26.4	7.7	-0.1									
05-01-2003	-11.2	-15.5	3.8	-5.4	-16.6									
02-01-2004	-1.0	-6.9	3.2	4.5	-5.5									
01-01-2006	7.0	0.3	0.6	0.7	-6.3									
01-01-2009	-15.7	-16.1	-14.8	-14.4	-12.8									
01-01-2010	-12.2	-5.2	2.1	6.9	1.7									
04-01-2011	-1.1	-9.5	-1.8	2.8	8.5	5.1	1.8	-10.9	-6.5	3.8	-2.9	6.2	7.3	14.4
04-01-2012	5.6	2.6	1.9	8.0	15.5	12.5	7.0	-4.4	1.2	8.3	6.2	7.3	11.2	11.5
04-01-2014	10.7	12.7	5.2	10.0	23.2	14.6	12.4	6.8	1.7	13.8	20.6	7.9	14.1	15.7
01-01-2016	7.5	7.8	2.0	0.5	8.8	6.3	4.8	2.7	0.3	5.0	10.3	2.5	6.7	7.8
01-01-2019	11.4	-3.3	-1.1	-0.7	-2.9	2.8	2.0	-5.3	-11.3	2.2	2.8	11.3	2.7	12.0

EXPLANATORY NOTES TO TABLE 17

HISTORY OF SPECIAL CAUSES OF LOSS
LOSS COST/RATE LEVEL CHANGES BY CATEGORY

COLUMN (1)

EFFECTIVE DATE

The effective dates of the latest loss cost/rate level changes are shown.

COLUMN (2)

LOSS COST/RATE LEVEL CHANGES BY CATEGORY

Loss cost/rate changes are shown in percent form for each category. Refer to Table 37 for definitions of the current 14 categories.

The prior category definitions (before implementation of the revised rating for Special Causes of Loss) are:

- 01 - Buildings
- 02 - Apartments Contents
- 03 - Office Contents
- 04 - Mercantile, Motel/Hotel and Institutional Contents
- 05 - Service, Industrial/Processing, and Contractors Contents

COMMERCIAL PACKAGE POLICY IMPLICIT PACKAGE MODIFICATION FACTORS (IPMF's)
AND IPMF CAPS

IMPLICIT PACKAGE
MODIFICATION
FACTORS

Since multiline experience is included in the loss cost level evaluations, an additional adjustment is made to multiline aggregate loss costs after they have been brought to current ISO loss cost level. This adjustment is the application of implicit CPP package modification factors which vary for each of the eight CPP types of policy.

The loss costs used to price a Commercial Package Policy (CPP) are the monoline loss costs multiplied by the PMF to reflect the package policy discount for the particular type of CPP policy relative to the individual monoline policies. However, these PMF's measure the amount of multiline discount for all property coverages combined. A more accurate measure of the amount of multiline discount for each subline (e.g., Basic Group I, Basic Group II, or Special Causes of Loss) is the implicit package modification factor that was used to calculate the overall PMF for all property coverages combined.

For example, the published PMF for Apartments (all property coverages combined) may be .85, but the implicit PMF for Apartments, Commercial Basic Group I coverage only, may be .80. The average of the implicit PMF's for the various coverages is equal to the published PMF for each type of policy.

The current IPMF's by coverage for each CPP type of policy are applied to multiline aggregate loss costs at current level for Basic Group I, Basic Group II and Special Causes of Loss.

IPMF CAPS

For Basic Group I, Basic Group II, and Special Causes of Loss, the IPMF's lower caps are set at 0.50 and the upper caps are set at 1.50 for all TOP's.

TENNESSEE
TABLE 18
BASIC GROUP I IMPLICIT PACKAGE
MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

CPP IMPLICIT PACKAGE MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

TOP	DESCRIPTION	IPMF	LOW CAP	HIGH CAP

31	MOTEL/HOTEL	0.853	0.500	1.500
32	APARTMENT	0.997	0.500	1.500
33	OFFICE	0.967	0.500	1.500
34	MERCANTILE	1.030	0.500	1.500
35	INSTITUTIONAL	0.958	0.500	1.500
36	SERVICES	1.004	0.500	1.500
37	INDUST/PROCESSING	1.241	0.500	1.500
38	CONTRACTORS	1.072	0.500	1.500

TENNESSEE
TABLE 19
BASIC GROUP II IMPLICIT PACKAGE
MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

CPP IMPLICIT PACKAGE MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

TOP	DESCRIPTION	IPMF	LOW CAP	HIGH CAP

31	MOTEL/HOTEL	1.157	0.500	1.500
32	APARTMENT	0.920	0.500	1.500
33	OFFICE	0.713	0.500	1.500
34	MERCANTILE	0.894	0.500	1.500
35	INSTITUTIONAL	0.990	0.500	1.500
36	SERVICES	0.884	0.500	1.500
37	INDUST/PROCESSING	0.740	0.500	1.500
38	CONTRACTORS	0.654	0.500	1.500

TENNESSEE
TABLE 20
SPECIAL CAUSES OF LOSS IMPLICIT PACKAGE
MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

CPP IMPLICIT PACKAGE MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

TOP	DESCRIPTION	IPMF	LOW CAP	HIGH CAP

31	MOTEL/HOTEL	1.283	0.500	1.500
32	APARTMENT	1.100	0.500	1.500
33	OFFICE	1.030	0.500	1.500
34	MERCANTILE	0.803	0.500	1.500
35	INSTITUTIONAL	0.977	0.500	1.500
36	SERVICES	0.964	0.500	1.500
37	INDUST/PROCESSING	0.872	0.500	1.500
38	CONTRACTORS	0.972	0.500	1.500

EXPLANATORY NOTES TO TABLES 18, 19, AND 20

IMPLICIT PACKAGE MODIFICATION
FACTORS (IPMF's) AND IPMF CAPS

TABLES 18, 19,
AND 20

These tables provide the current IPMF's and IPMF caps for Basic Group I, Basic Group II, and Special Causes of Loss. The IPMF's shown here are those which resulted from the most recent CPP revision. The IPMF lower caps are set at .50 and the upper caps are set at 1.50 for all TOP's.

TREND PROCEDURE

INTRODUCTION

The prospective loss cost levels established in this document reflect the anticipated claim cost and claim frequency levels and changes in revenue due to increased amounts of insurance purchased for the period when the new loss costs are assumed to be in effect.

LOSS TREND

EXTERNAL LOSS DATA

For Commercial Property, the loss trend factors are referred to as current cost factors (CCF's) and loss projection factors (LPF's). These CCF's and LPF's are based on the following accepted economic indices:

1. Xactware Commercial Index (XCI) for buildings loss projection factors and current cost factors
2. Producer Price Index (PPI) published by the US Department of Labor (Finished Goods Less Energy, Not Seasonally Adjusted) for contents factors
3. Index for Manufacturers' Sales Exposure (IMSEP) developed by ISO using indices published by the Department of Commerce and Chain-Type Price Index for Retail Sales (RSALES) produced by the Bureau of the Census, Bureau of Economic Analysis for time element factors

The CCF's adjust losses for actual inflationary changes which have taken place between the accident date and the midpoint of the latest period of external trend information, i.e. February 15, 2019 for property damage and time element. The LPF's adjust losses for projected inflationary changes from the midpoint of the latest period of external trend information to the anticipated average date of accident for policies written under the proposed loss costs (assumed to be 12 months after the assumed revision date based on all one-year policies).

The CCF's and LPF's are calculated separately for buildings, contents, and time element coverages. For coverage 3 (buildings and contents on a combined basis), combined trend factors are calculated using the following weights for buildings and contents: 70%/30% for Basic Group I, 75%/25% for Basic Group II, and 50%/50% for Special Causes of Loss. For time element (coverages 4-9) the combined trend factors are calculated using 70%/30% weights for RSALES/IMSEP. The factors are applied by coverage to the losses reported under CSP and CMSP on an individual occurrence basis.

TREND PROCEDURE (cont'd)

LOSS TREND (cont'd)

LOSS TREND ADJUSTMENT - SEVERITY

An evaluation of the latest Commercial Property insurance data shows that the cost levels inherent in the property damage coverages are increasing at a different rate than those measured by the external indices. Therefore, to insure adequate prospective loss cost levels during the period for which loss costs are to be determined, loss trend adjustments (LTA's) have been applied. These factors were developed by comparing the annual rate of change in average claim costs to the annual rate of change in the external indices. (Refer to Table 23 for the calculations.)

LOSS TREND ADJUSTMENT - FREQUENCY

In order to reflect total trend more precisely, a frequency component is included in the loss trend adjustment factors (LTA's) separately for buildings and contents for Basic Group I and contents only for Special Causes of Loss. No frequency component is used for Basic Group II and Special Causes of Loss buildings due to the extremely volatile nature of the coverages.

AMOUNT-OF- INSURANCE TREND

Cost changes over time to both real and personal property result in insureds purchasing increased amounts of insurance. To reflect the impact of this phenomenon, amount of insurance trend factors are applied to collected loss costs to bring them to prospective amount of insurance levels. These factors are developed by measuring amount of insurance trends on a sample of renewal policies.

The application and development of these factors parallels loss trend factors in that separate factors are developed for buildings, contents, and time element, and the adjustment to prospective amount of insurance levels is done in two steps. The current written factors adjust loss costs to the amount of insurance level for the midpoint of the latest period of renewal information, i.e. July 1, 2018. Total amount of insurance trend factors are then calculated by projecting these current factors to the average date of writing (i.e. to the amount of insurance level six months beyond the assumed effective date).

TABLE 21

Development of Current Cost Factors and Loss Projection Factors
For Commercial Property Building and Contents Experience
 Period ending March 31, 2019

Part A: Quarterly Indices for Buildings, Contents and Time Element

Building Loss Projection Factors - Xactware Commercial Index (XCI) (Base: 2009 = 100.0)

Contents - Producer Price Index (PPI) - U.S. Dept. of Labor (Finished Goods Less Energy) (Base: 2009 = 100.0)

Time Element Combined Index - Weighted average of IMSEP and RSALES indices ^(a)

<u>Quarter</u>	<u>XCI</u>	<u>PPI</u>	<u>IMSEP</u>	<u>RSALES</u>	Time Element Combined <u>Index</u>
Q2-2016	110.7	114.3	1.031	0.955	0.978
Q3-2016	111.3	114.3	1.029	0.953	0.976
Q4-2016	111.9	114.6	1.033	0.956	0.979
Q1-2017	112.7	115.5	1.038	0.963	0.986
Q2-2017	114.0	116.5	1.036	0.957	0.981
Q3-2017	115.0	116.3	1.042	0.959	0.984
Q4-2017	115.5	117.1	1.044	0.965	0.989
Q1-2018	116.6	117.6	1.048	0.971	0.994
Q2-2018	117.5	118.1	1.055	0.974	0.998
Q3-2018	118.4	118.3	1.059	0.974	1.000
Q4-2018	118.8	119.6	1.059	0.972	0.998
Q1-2019	119.8	120.4	1.058	0.967	0.994

Part B: Computation of Loss Projection Factor (LPF) for Buildings based on 12 points

$$\text{Annual Rate of Change} = 0.0303 = 3.03\% \quad R^2 = 0.995$$

$$\text{Loss Projection Factor for Buildings} = 1.0303^{22.5/12 \text{ (b)}} = 1.0576$$

Part C: Computation of Loss Projection Factor (LPF) for Contents based on 12 points

$$\text{Annual Rate of Change} = 0.0190 = 1.9\% \quad R^2 = 0.974$$

$$\text{Loss Projection Factor for Contents} = 1.019^{22.5/12 \text{ (b)}} = 1.0359$$

Part D: Computation of Loss Projection Factor (LPF) for Time Element Based on 12 points

$$\text{Annual Rate of Change} = 0.0089 = 0.89\% \quad R^2 = 0.843$$

$$\text{Loss Projection Factor for Time Element} = 1.0089^{22.5/12 \text{ (b)}} = 1.0168$$

- (a) 30% weight for IMSEP and 70% weight for RSALES. IMSEP & RSALES indices were rescaled to a 2012 year base.
- (b) Assuming a rate or loss cost revision date of January 1 2020, and all one year policies, the time interval between the midpoint of the latest period (02/15/2019) and the average date of accident (01/01/2021) would be 22.5 months.

TABLE 21

Development of Current Cost Factors and Loss Projection Factors

Part E: Calculation of Current Cost Factors (CCF)

Calendar Year Averages				Current Cost Factors Based on Average Index Values for Period ending March 31, 2019		
Year	XCI	PPI	Time Element Index	Buildings	Contents	Time Element
2008	97.0	98.5	0.948	$119.8 / 97.0 = 1.236$	$120.4 / 98.5 = 1.222$	$0.994 / 0.948 = 1.049$
2009	100.0	100.0	0.940	$119.8 / 100.0 = 1.198$	$120.4 / 100.0 = 1.204$	$0.994 / 0.940 = 1.057$
2010	99.3	101.8	0.953	$119.8 / 99.3 = 1.207$	$120.4 / 101.8 = 1.183$	$0.994 / 0.953 = 1.043$
2011	100.0	105.2	0.985	$119.8 / 100.0 = 1.198$	$120.4 / 105.2 = 1.144$	$0.994 / 0.985 = 1.009$
2012	101.0	108.0	1.000	$119.8 / 101.0 = 1.186$	$120.4 / 108.0 = 1.115$	$0.994 / 1.000 = 0.994$
2013	102.7	109.7	1.003	$119.8 / 102.7 = 1.167$	$120.4 / 109.7 = 1.097$	$0.994 / 1.003 = 0.991$
2014	104.7	112.5	1.006	$119.8 / 104.7 = 1.144$	$120.4 / 112.5 = 1.070$	$0.994 / 1.006 = 0.988$
2015	109.1	113.8	0.987	$119.8 / 109.1 = 1.098$	$120.4 / 113.8 = 1.058$	$0.994 / 0.987 = 1.007$
2016	111.1	114.4	0.977	$119.8 / 111.1 = 1.078$	$120.4 / 114.4 = 1.052$	$0.994 / 0.977 = 1.017$
2017	114.3	116.4	0.985	$119.8 / 114.3 = 1.048$	$120.4 / 116.4 = 1.035$	$0.994 / 0.985 = 1.009$
2018	117.8	118.4	0.998	$119.8 / 117.8 = 1.017$	$120.4 / 118.4 = 1.017$	$0.994 / 0.998 = 0.996$

EXPLANATORY NOTES TO TABLE 21

PART A: XACTWARE, PRODUCER PRICE, IMSEP, RSALES INDICES AND COMBINED TIME ELEMENT

QUARTER	The quarter for which the indices shown apply.
XACTWARE COMMERCIAL INDEX (XCI)	The Xactware Commercial Index measures the costs of building material and repairs for commercial properties. The index, which is available since 1st Quarter 2005, is based on regular surveys of over 42,000 material and equipment suppliers and over 9,500 contractors, in addition to claims settlement data. The index values are created by estimating the cost to rebuild a sample set of different structures ranging in size, style, and quality in each economic market. The Xactware index is used in this filing to adjust for current cost from 1/1/05 to the midpoint of the latest index point and for determining the loss projection factor.
PRODUCER PRICE INDEX (PPI)	The Producer Price Index is a time series which measures the price level for a predetermined group of goods produced relative to the price level for an earlier point in time (2009). The PPI Finished Goods Less Energy is published by the U.S. Department of Labor.
PRICE DEFLATOR INDEX FOR MANUFACTURERS' SALES EXPOSURE (IMSEP)	<p>The price deflator index for manufacturers' sales exposure is a quarter's model of Manufacturers' Sales Exposure Proxy (MSEP) for the period in question relative to MSEP measured in chained 2012 dollars. The price deflator is defined as the GNP (Gross National Product) price deflator with government expenditures, investment in intellectual property products, inventory changes, and all services except food services removed.</p> <p>$\text{MSEP} = (\text{CD} + \text{CN} + \text{FS}) + (\text{EXD\&N} - \text{IMD\&N}) + (\text{IFIX} - \text{IPP}), \text{ where}$<p>CD and CN represent consumption of durables and nondurables, respectively; EXD&N and IMD&N represent exports and imports of merchandise, respectively; FS represents food services and IFIX represents gross private domestic fixed investment (including residential fixed investment as well as nonresidential fixed investment in structures, equipment, and intellectual property products); and IPP represents nonresidential fixed investment in intellectual property products.</p></p>
CHAIN-TYPE PRICE INDEX FOR RETAIL SALES (RSALES)	The Chain-Type Price Index for Retail Sales measures changes in losses due solely to inflation.

EXPLANATORY NOTES TO TABLE 21 (cont'd)

PARTS B, C and D: COMPUTATION OF THE LOSS PROJECTION FACTOR

LOSS PROJECTION
FACTOR

The loss projection factor is calculated by fitting a least squares exponential curve to the appropriate number of points (where the appropriate number of points is determined based on judgment and an examination of the goodness of fit as determined by the R-squared values subject to a maximum of 12 quarterly points for property damage and time element).

The table displays the indices for those points used in fitting the curve. The relevant equations are shown and the annual rate of change in the indices based on the exponential fit is developed. This annual rate of change is projected over the period which extends from the latest period of cost information to the average accident date of the projection period.

PART E: CALCULATION OF CURRENT COST FACTORS (CCF'S)

CALENDAR YEAR
AVERAGES

The calendar year averages are the averages of the Xactware, PPI and Time Element indices for the given year. These average indices measure the average cost level of each year relative to the base.

CURRENT COST
FACTORS

The current cost factors are the ratios of the indices for the latest period of cost information divided by the average indices for each calendar year. These factors measure the changes in cost levels which have occurred from the midpoint of the given year to the latest point of cost information. In this regard, they represent average factors which would result if each year's losses were distributed evenly throughout the year.

For buildings, the index for the latest point is based on the latest available Xactware point.

Since losses are trended on a record by record basis, these calendar year factors are not actually used in ISO's trend calculations. Instead, factors are calculated from the bi-monthly or quarterly indices and applied to the unit losses based on the date of occurrence.

TABLE 22

SUMMARY OF LOSS TREND ADJUSTMENTS (LTA'S)

<u>BUILDINGS</u>	<u>5 YEAR INCURRED LOSSES</u>	<u>LTA'S*</u>
BASIC GROUP I	3,397,603,765	-0.3
BASIC GROUP II	3,091,434,408	0.2
SPECIAL CAUSES OF LOSS	1,852,163,757	0.2
TOTAL	8,341,201,930	0.0
<u>CONTENTS</u>		
	964,588,247	0.7
BASIC GROUP I		
BASIC GROUP II	283,850,498	0.6
SPECIAL CAUSES OF LOSS	724,827,074	0.0
TOTAL	1,973,265,819	0.4
<u>TIME ELEMENT</u>		
BASIC GROUP I	397,520,411	2.8
BASIC GROUP II	75,461,620	2.6
SPECIAL CAUSES OF LOSS	138,773,134	2.8
TOTAL	611,755,165	2.8
GRAND TOTAL	10,926,222,913	0.2

* The LTA's are based on internal severity and frequency data. They apply to both the historical period and projection period.

EXPLANATORY NOTES TO TABLE 22

SUMMARY OF LOSS TREND ADJUSTMENTS (LTA'S)

COLUMN (1)

COVERAGE

The LTA's vary by coverage (buildings, contents, and time element) and line of business (BG I, BG II, and SCL).

COLUMN (2)

FIVE-YEAR INCURRED LOSSES

The five-year multistate incurred losses are used as weights to determine the annual LTA for all lines of business and coverages combined.

COLUMN (3)

ANNUAL LTA's

The LTA's are the factors which are applied to losses to supplement the external indices in order to correctly reflect cost level and claim frequency changes. These are shown here as annual factors. However, they are applied over the entire length of the trend period, i.e. from the date of loss occurrence to the anticipated average accident date under the revised loss costs. The severity portion of the LTA is applied on an individual record basis in the same manner as the CCF's and LPF's. The frequency portion of the LTA is applied to the aggregate losses.

OVERVIEW

DEVELOPMENT OF LOSS TREND ADJUSTMENTS

INTRODUCTION

In order to supplement the external indices reflected in CCF's and LPF's, loss trend adjustments (LTA's) have been developed based on internal loss data. This is necessary because the external indices alone have been insufficient in reflecting cost level and claim frequency changes in Commercial Property Insurance. The following tables show the calculations used to develop these LTA's. Please note the development of the LTA's for the 2019 COMFAL reviews is based on internal commercial property experience through 12/31/2017 and external cost indices through 12/31/2017. Therefore, the CCF's and LPF's shown on Table 23 will not necessarily match those shown on Table 21. ISO has determined that the selected LTAs are appropriate to be used with the latest external indices shown on Table 21.

TABLE 23
DEVELOPMENT OF LTA'S

I. EXTERNAL RATE OF CHANGE^a

Calendar Year	(1) Buildings Current Cost Factor	(2) Contents Current Cost Factor	(3) Time Element Cost Factor	(4) Basic Group I (BGI)& Special Causes of Loss (SCL) Weights	(5) Basic Group II (BGII) Weights
2008	1.247	1.240	1.062		0.10
2009	1.191	1.189	1.043		0.10
2010	1.155	1.171	1.052		0.10
2011	1.164	1.150	1.038		0.10
2012	1.155	1.113	1.004		0.10
2013	1.144	1.085	0.989	0.10	0.10
2014	1.125	1.067	0.986	0.15	0.10
2015	1.103	1.041	0.983	0.20	0.10
2016	1.058	1.029	1.002	0.25	0.10
2017	1.040	1.023	1.012	0.30	0.10

(6) AVERAGE CURRENT COST FACTORS

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss (Weighted on Column (4))	1.080	1.041	0.998
Basic Group II (Weighted on Column (5))	1.138	1.111	1.017

(7) LOSS PROJECTION FACTORS

	Buildings	Contents	Time Element
Annual Rate of Change	0.024	0.011	-0.001
Loss Projection Factor: ^b $(1.0 + \text{Annual Rate of Change})^{(X/12)}$	1.063	1.029	0.998

(8) TOTAL TREND FACTOR (Average Current Cost Factor \times Loss Projection Factor)

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss	1.148	1.071	0.996
Basic Group II	1.210	1.143	1.015

(9) EXTERNAL ANNUAL RATE OF CHANGE^c

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss: $(\text{Total Trend Factor})^{12/54}$	1.031	1.015	0.999
Basic Group II: $(\text{Total Trend Factor})^{12/90}$	1.026	1.018	1.002

- (a) The Current Cost Factors and Loss Projection Factors on this exhibit are based on external economic indices through December 31, 2017 for Buildings, Contents and Time Element.
- (b) Assuming a loss cost revision date of July 1, 2019, the time interval between the midpoint of the latest period of external trend information (November 15, 2017) and the prospective average date of loss (July 1, 2020) is 31.5 months for Buildings, Contents and Time Element.
- (c) The time interval from the weighted midpoint of the experience period to the prospective average date of loss (July 1, 2020) is 54 months for BG I and SCL, and 90 months for BG II. The weighted midpoint is January 1, 2016 for BG I and SCL, and January 1, 2013 for BG II.

TABLE 23
DEVELOPMENT OF LTA'S

II. INTERNAL ANNUAL RATES OF CHANGE:

(10) SELECTED COMFAL

	Buildings	Contents	Time Element
Basic Group I (BGI)	1.045	1.050	1.055
Basic Group II (BGII)	1.030	1.030	1.055
Special Causes of Loss	1.035	1.025	1.055

III. LTA CALCULATION:

CALCULATION OF LTAs - BUILDINGS

	(11) External Rate of Change ^d	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA ^e	(15) Frequency Effect	(16) Final LTA ^f
Basic Group I (BGI)	1.031	1.045	1.4	0.7	-1.0	-0.3
Basic Group II (BGII)	1.026	1.030	0.4	0.2	0.0	0.2
Special Causes of Loss	1.031	1.035	0.4	0.2	0.0	0.2

CALCULATION OF LTAs - CONTENTS

	(11) External Rate of Change ^d	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA ^e	(15) Frequency Effect	(16) Final LTA ^f
Basic Group I (BGI)	1.015	1.050	3.4	1.7	-1.0	0.7
Basic Group II (BGII)	1.018	1.030	1.2	0.6	0.0	0.6
Special Causes of Loss	1.015	1.025	1.0	0.5	-0.5	0.0

CALCULATION OF LTAs - TIME ELEMENT

	(11) External Rate of Change ^d	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA ^e	(15) Frequency Effect	(16) Final LTA ^f
Basic Group I (BGI)	0.999	1.055	5.6	2.8	0.0	2.8
Basic Group II (BGII)	1.002	1.055	5.3	2.6	0.0	2.6
Special Causes of Loss	0.999	1.055	5.6	2.8	0.0	2.8

(d) The external rates of change are based on external economic indices through December 31, 2017 for Buildings, Contents and Time Element.

(e) The formula severity LTA for Buildings, Contents and Time Element is calculated as one-half of the indicated severity LTA. This is equivalent to calculating the overall severity trend giving 50% weight to the external trend and 50% weight to the selected internal trend.

(f) The final LTA is calculated as the product (in factor form) of the formula severity LTA and frequency effect.

EXPLANATORY NOTES TO TABLE 23

DEVELOPMENT OF LOSS TREND ADJUSTMENTS (LTA'S)

I. EXTERNAL RATE OF CHANGE

COLUMN (1), (2)
AND (3)

CURRENT COST FACTORS

The CCF's underlying the LTA analysis are based on external cost indices through 12/31/2017 for buildings, contents and time element.

COLUMNS (4)
AND (5)

WEIGHTS

The standard review weights are shown for each line of business.

LINES (6)

AVERAGE CURRENT COST FACTORS

The average CCF's for the experience period are calculated based on the weights shown in columns (4) and (5).

LINE (7)

LOSS PROJECTION FACTORS

The LPF's underlying the LTA analysis are shown here.

LINE (8)

TOTAL TREND

The total trend is the product of the average CCF and the LPF.

LINE (9)

EXTERNAL ANNUAL RATE OF CHANGE

The total trend is converted to an annual basis by raising it to the reciprocal of the number of years between the weighted midpoint of the experience period and the anticipated average accident date. For BG I and SCL the weighted midpoint of the experience period is 1/1/2016, for BG II it is 1/1/2013. Accordingly, there are 54 and 90 months, respectively, to the anticipated average accident date of 7/1/2020.

II. INTERNAL ANNUAL RATES OF CHANGES

LINE (10)

SELECTED COMFAL

The displayed annual rates of change in the average claim costs for BG I, BG II, and SCL were selected based on several least squares exponential fits of the annual claim costs for each subline. This was done to the most recent ten years of Commercial Property data using all companies in the ratemaking data base.

EXPLANATORY NOTES TO TABLE 23 (cont'd)

III. LTA CALCULATION

COLUMN (11)

ANNUAL EXTERNAL

The annual external rates of change from column (9) are shown here.

COLUMN (12)

ANNUAL INTERNAL

The adjusted annual internal rates of change in average loss from line (10) are shown here.

COLUMN (13)

INDICATED SEVERITY LTA

The indicated severity LTA's are calculated by dividing the annual internal rates of change by the annual external rates of change.

COLUMN (14)

FORMULA SEVERITY LTA

The severity LTA's in column (13) are then selected to temper the full effect of internal trend data. Without such tempering, full weight would in effect be given to the internal data without any consideration of the external cost indices.

COLUMN (15)

FREQUENCY EFFECT

The displayed annual rates of change in claim frequency for BG I and SCL were selected based on several least squares exponential fits of the claim frequency by subline. No frequency trend was selected for BG II and SCL buildings due to the extremely volatile nature of the coverage.

COLUMN (16)

FINAL LTA

The final LTA is the combination of the severity and frequency trend adjustments, calculated as column (14) times column (15), in factor form.

TABLE 24A

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

	<u>Buildings</u>				<u>Contents</u>			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c	(5) ^a	(6) ^a	(7) ^b	(8) ^c
<u>Year</u>	<u>Annual</u> <u>Written</u> <u>Increase</u>	<u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>07-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>07-01-2020</u> <u>Earned</u> <u>Factors</u>	<u>Annual</u> <u>Written</u> <u>Increase</u>	<u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>07-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>07-01-2020</u> <u>Earned</u> <u>Factors</u>
2006	3.8%	1.380	1.453	1.507	2.1%	1.268	1.317	1.345
2007	3.9%	1.328	1.398	1.453	2.4%	1.238	1.285	1.317
2008	3.5%	1.283	1.351	1.399	2.4%	1.209	1.255	1.285
2009	3.3%	1.242	1.307	1.351	2.2%	1.183	1.228	1.255
2010	2.5%	1.212	1.276	1.309	1.7%	1.163	1.208	1.229
2011	2.5%	1.182	1.244	1.276	1.8%	1.142	1.186	1.208
2012	2.7%	1.151	1.212	1.244	1.8%	1.122	1.165	1.186
2013	2.6%	1.122	1.181	1.212	2.1%	1.099	1.141	1.165
2014	2.5%	1.095	1.153	1.181	2.1%	1.076	1.117	1.141
2015	2.3%	1.070	1.126	1.153	1.9%	1.056	1.097	1.118
2016	2.1%	1.048	1.103	1.127	1.8%	1.037	1.077	1.097
2017	2.1%	1.026	1.080	1.103	1.8%	1.019	1.058	1.077
2018	2.6%	1.000	1.053	1.080	1.9%	1.000	1.038	1.058

Notes

a The percentages in columns (1) and (5) represent the change in written exposures from 07/01/n-1 to 07/01/n. Columns (2) and (6) contain the cumulative changes in written exposures for each year relative to the latest year.

b The selected average annual changes in Amount of Insurance for projection purposes are 2.6% and 1.9% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2020 (i.e., 6 months beyond an assumed revision date of 01/01/2020), by applying a factor of $(1.026)^{24/12}$ for Buildings and $(1.019)^{24/12}$ for Contents.

c Written factors are earned into each accident year ending 12/31 using the following factors which assume all one year policies:

	<u>Earning Factors</u>
<u>Year</u>	<u>All Years</u>
n-2	1/8
n-1	3/4
n	1/8

For example, the factors used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.080 for Buildings and 1.058 for Contents.

TABLE 24A (cont'd)

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

Time Element				
	(1) ^a Annual Written Increase	(2) ^a 07-01-2018 Written Factors	(3) ^b 07-01-2020 Projected Factors	(4) ^c 07-01-2020 Earned Factors
Year				
2006	1.4%	1.118	1.131	1.148
2007	1.3%	1.104	1.117	1.131
2008	1.3%	1.090	1.103	1.117
2009	0.8%	1.081	1.094	1.104
2010	0.7%	1.073	1.086	1.094
2011	0.8%	1.064	1.077	1.086
2012	0.8%	1.056	1.069	1.077
2013	0.9%	1.047	1.060	1.069
2014	1.0%	1.037	1.049	1.060
2015	1.1%	1.026	1.038	1.049
2016	1.1%	1.015	1.027	1.038
2017	0.9%	1.006	1.018	1.027
2018	0.6%	1.000	1.012	1.018

Notes

a The percentage in column (1) represents the change in written exposures from 07/01/n-1 to 07/01/n. Column (2) is the cumulative change in written exposures for each year relative to the latest year.

b The selected average annual change in Net Income (Time Element exposure) for projection purposes is 0.6%. Consequently, the written factors at 07/01/2018 levels in column (2) are brought to the level of the average date of writing in the effective period, 07/01/2020 (i.e., 6 months beyond an assumed revision date of 01/01/2020), by applying a factor of $(1.006)^{24/12}$ for Time Element.

c Written factors are earned into each accident year ending 12/31 using the following factors which assume all one year policies:

<u>Earning Factors</u>	
<u>Year</u>	<u>All Years</u>
n-2	1/8
n-1	3/4
n	1/8

For example, the factor used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level is 1.018.

TABLE 24B

PREMIUM TREND - BASIC GROUP I
DEVELOPMENT OF CURRENT AND PROJECTED EARNED PREMIUM FACTORS

	<u>Buildings</u>				<u>Contents</u>			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c	(5) ^a	(6) ^a	(7) ^b	(8) ^c
	Annual	07-01-2018	07-01-2020	07-01-2020	Annual	07-01-2018	07-01-2020	07-01-2020
	Written	Written	Projected	Earned	Written	Written	Projected	Earned
<u>Year</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2006	3.1%	1.297	1.352	1.393	1.8%	1.219	1.258	1.281
2007	3.1%	1.258	1.311	1.352	2.0%	1.195	1.234	1.258
2008	2.8%	1.224	1.276	1.312	2.0%	1.172	1.210	1.234
2009	2.7%	1.192	1.243	1.276	1.8%	1.151	1.188	1.210
2010	2.0%	1.169	1.219	1.244	1.4%	1.135	1.172	1.189
2011	2.0%	1.146	1.195	1.219	1.5%	1.118	1.154	1.172
2012	2.2%	1.121	1.169	1.195	1.5%	1.101	1.137	1.154
2013	2.1%	1.098	1.145	1.169	1.8%	1.082	1.117	1.137
2014	2.0%	1.076	1.122	1.145	1.8%	1.063	1.097	1.117
2015	1.9%	1.056	1.101	1.122	1.6%	1.046	1.080	1.097
2016	1.7%	1.038	1.082	1.101	1.5%	1.031	1.064	1.080
2017	1.7%	1.021	1.064	1.082	1.5%	1.016	1.049	1.064
2018	2.1%	1.000	1.042	1.064	1.6%	1.000	1.032	1.049

Notes

a The percentages in columns (1) and (5) represent the change in written premium (reflecting the combined effect of change in exposures and limit of insurance factors) from 07/01/n-1 to 07/01/n. Columns (2) and (6) contain the cumulative changes in written premiums for each year relative to the latest year.

b The average annual changes in Premium for projection purposes are 2.1% and 1.6% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2020 (i.e., 6 months beyond an assumed revision date of 01/01/2020), by applying a factor of $(1.021)^{24/12}$ for Buildings and $(1.016)^{24/12}$ for Contents.

c Written factors are earned into each accident year ending 12/31 using the following factors which assume all one year policies:

	<u>Earning Factors</u>
<u>Year</u>	<u>All Years</u>
n-2	1/8
n-1	3/4
n	1/8

For example, the factors used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.064 for Buildings and 1.049 for Contents.

TABLE 24C

**PREMIUM TREND - BASIC GROUP II - OTHER THAN SOUTHEAST
DEVELOPMENT OF CURRENT AND PROJECTED EARNED PREMIUM FACTORS**

	Buildings				Contents			
	(1) ^a Annual Written Increase	(2) ^a 07-01-2018 Written Factors	(3) ^b 07-01-2020 Projected Factors	(4) ^c 07-01-2020 Earned Factors	(5) ^a Annual Written Increase	(6) ^a 07-01-2018 Written Factors	(7) ^b 07-01-2020 Projected Factors	(8) ^c 07-01-2020 Earned Factors
Year								
2006	2.8%	1.272	1.321	1.358	1.6%	1.197	1.231	1.250
2007	2.9%	1.236	1.283	1.321	1.8%	1.176	1.209	1.231
2008	2.6%	1.205	1.251	1.284	1.8%	1.155	1.188	1.209
2009	2.4%	1.177	1.222	1.251	1.7%	1.136	1.168	1.188
2010	1.9%	1.155	1.199	1.223	1.3%	1.121	1.153	1.169
2011	1.9%	1.133	1.176	1.199	1.4%	1.106	1.137	1.153
2012	2.0%	1.111	1.154	1.176	1.4%	1.091	1.122	1.137
2013	1.9%	1.090	1.132	1.154	1.6%	1.074	1.104	1.122
2014	1.9%	1.070	1.111	1.132	1.6%	1.057	1.087	1.104
2015	1.7%	1.052	1.092	1.111	1.4%	1.042	1.071	1.087
2016	1.6%	1.035	1.075	1.092	1.4%	1.028	1.057	1.071
2017	1.6%	1.019	1.058	1.075	1.4%	1.014	1.043	1.057
2018	1.9%	1.000	1.038	1.058	1.4%	1.000	1.028	1.043

Notes

a The percentages in columns (1) and (5) represent the change in written premium (reflecting the combined effect of change in exposures and limit of insurance factors) from 07/01/n-1 to 07/01/n. Columns (2) and (6) contain the cumulative changes in written premiums for each year relative to the latest year.

b The average annual changes in Premium for projection purposes are 1.9% and 1.4% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2020 (i.e., 6 months beyond an assumed revision date of 01/01/2020), by applying a factor of $(1.019)^{24/12}$ for Buildings and $(1.014)^{24/12}$ for Contents.

c Written factors are earned into each accident year ending 12/31 using the following factors which assume all one year policies:

Earning Factors	
Year	All Years
n-2	1/8
n-1	3/4
n	1/8

For example, the factors used to adjust earned premium for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.058 for Buildings and 1.043 for Contents.

TABLE 24D

PREMIUM TREND - SPECIAL CAUSES OF LOSS
DEVELOPMENT OF CURRENT AND PROJECTED EARNED PREMIUM FACTORS

	Buildings				Contents			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c	(5) ^a	(6) ^a	(7) ^b	(8) ^c
Year	Annual Written Increase	07-01-2018 Written Factors	07-01-2020 Projected Factors	07-01-2020 Earned Factors	Annual Written Increase	07-01-2018 Written Factors	07-01-2020 Projected Factors	07-01-2020 Earned Factors
2006	2.9%	1.281	1.333	1.371	1.4%	1.168	1.196	1.213
2007	3.0%	1.244	1.294	1.333	1.6%	1.150	1.178	1.196
2008	2.7%	1.211	1.260	1.295	1.6%	1.132	1.159	1.178
2009	2.5%	1.181	1.229	1.260	1.4%	1.116	1.143	1.159
2010	1.9%	1.159	1.206	1.230	1.1%	1.104	1.131	1.144
2011	1.9%	1.137	1.183	1.206	1.2%	1.091	1.117	1.131
2012	2.1%	1.114	1.159	1.183	1.2%	1.078	1.104	1.117
2013	2.0%	1.092	1.136	1.159	1.4%	1.063	1.089	1.104
2014	1.9%	1.072	1.115	1.136	1.4%	1.048	1.073	1.089
2015	1.8%	1.053	1.096	1.115	1.2%	1.036	1.061	1.074
2016	1.6%	1.036	1.078	1.096	1.2%	1.024	1.049	1.061
2017	1.6%	1.020	1.061	1.078	1.2%	1.012	1.036	1.049
2018	2.0%	1.000	1.040	1.061	1.2%	1.000	1.024	1.036

Notes

a The percentages in columns (1) and (5) represent the change in written premium (reflecting the combined effect of change in exposures and limit of insurance factors) from 07/01/n-1 to 07/01/n. Columns (2) and (6) contain the cumulative changes in written premiums for each year relative to the latest year.

b The average annual changes in Premium for projection purposes are 2.0% and 1.2% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2020 (i.e., 6 months beyond an assumed revision date of 01/01/2020), by applying a factor of $(1.020)^{24/12}$ for Buildings and $(1.012)^{24/12}$ for Contents.

c Written factors are earned into each accident year ending 12/31 using the following factors which assume all one year policies:

	<u>Earning Factors</u>
<u>Year</u>	<u>All Years</u>
n-2	1/8
n-1	3/4
n	1/8

For example, the factors used to adjust earned premium for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.061 for Buildings and 1.036 for Contents.

EXPLANATORY NOTES TO TABLES 24A - 24D
EXPOSURE AND PREMIUM TREND FACTORS

Table 24A contains Exposure trend factors.

Tables 24B, 24C and 24D contain Premium trend factors for Basic Group I, Basic Group II and Special Causes of Loss respectively, building and contents. As annual written exposures increase (decrease), the resulting limit of insurance factors used for rating decrease (increase) and the combined effect should be reflected when trending premiums to future level. There are separate premium trend factor tables for Basic Group I, Basic Group II and Special Causes of Loss since there are separate limit of insurance curves for BG I, BG II and SCL.

For Time Element, exposure trend factors are also used to trend premiums, i.e., there are not separate Time Element premium trend factors because Time Element does not use limit of insurance factors for rating.

COLUMNS (1) ANNUAL WRITTEN INCREASE

AND (5)

The annual written increases for buildings, contents, and time element are calculated from the actual changes in amount of insurance from one year to the next for a sample of renewal policies (based on BG I experience). The change in amount of insurance for each policy in the sample was weighted with its prior year's premiums to obtain a weighted average change for each year. The Annual Written Increase in Premiums (Tables 24B, 24C and 24D) are calculated as the Annual Written Increase in Exposure tempered by the change in Limit of Insurance factor.

COLUMNS (2) 07-01-2018 WRITTEN FACTORS

AND (6)

The written factors for a given year are the product of the written annual changes for all years subsequent to that year. Although the 2018 written changes are based on two quarters of data, the consistency of this experience allows for the assumption that written changes for the first half of 2018 are applicable for the entire year.

COLUMNS (3) 07-01-2020 PROJECTED FACTORS

AND (7)

The 07-01-2020 factors are calculated by applying a factor to adjust the 07-01-2018 written factors to the amount of insurance level at the average date of writing, 07-01-2020. This is done using the selected annual changes in exposure or premium.

COLUMNS (4) 07-01-2020 EARNED EXPOSURES/PREMIUM FACTORS

AND (8)

The projected earned factors at the 07-01-2020 level (where 07-01-2020 is the average date of writing in the effective period) are calculated by earning the written factors assuming all one-year policies. The earning factors are shown in footnote (c).

**TENNESSEE
TABLE 25**

BASIC GROUP I

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		
				BUILDINGS	CONTENTS	TIME ELEMENT
2014	20,467,514	26,324,259	1.286	68.6%	26.0%	5.4%
2015	20,492,424	25,210,964	1.230	73.8%	23.3%	2.9%
2016	15,273,276	18,297,757	1.198	71.2%	23.0%	5.8%
2017	65,856,317	76,671,127	1.164	76.4%	13.8%	9.8%
2018	18,759,108	20,959,042	1.117	64.1%	33.7%	2.2%

TENNESSEE
TABLE 26

BASIC GROUP II

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	----- BUILDINGS	SPLIT % CONTENTS	----- TIME ELEMENT
2009	18,657,687	24,582,962	1.318	93.4%	5.1%	1.5%
2010	12,150,419	16,047,396	1.321	88.9%	7.6%	3.5%
2011	110,615,465	143,128,587	1.294	95.5%	3.5%	1.0%
2012	50,599,634	65,341,088	1.291	99.0%	1.0%	0.0%
2013	14,463,447	18,361,542	1.270	96.1%	3.6%	0.3%
2014	8,752,260	10,939,939	1.250	93.0%	6.1%	0.9%
2015	8,366,143	10,042,939	1.200	94.4%	5.2%	0.4%
2016	6,132,786	7,185,563	1.172	94.9%	5.0%	0.1%
2017	52,048,581	58,983,985	1.133	95.8%	3.3%	0.9%
2018	10,380,153	11,406,041	1.099	88.8%	7.8%	3.4%

**TENNESSEE
TABLE 27**

SPECIAL CAUSES OF LOSS

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		
				BUILDINGS	CONTENTS	TIME ELEMENT
2014	17,928,481	22,166,266	1.236	77.9%	20.0%	2.1%
2015	27,142,438	32,032,107	1.180	77.4%	20.9%	1.7%
2016	8,125,312	9,468,152	1.165	72.6%	23.8%	3.6%
2017	10,943,857	12,460,692	1.139	76.7%	20.2%	3.1%
2018	12,984,942	14,280,330	1.100	80.5%	16.3%	3.2%

EXPLANATORY NOTES TO TABLES 25, 26 AND 27

BG I, BG II, AND SCL ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

COLUMN (1) UNADJUSTED INCURRED LOSSES

The unadjusted incurred losses are the reported losses prior to any adjustment.

COLUMN (2) TRENDED INCURRED LOSSES

The trended incurred losses are the aggregate of the individual losses trended on a unit record basis.

COLUMN (3) AVERAGE TREND FACTOR

The average trend factors are the trended incurred losses in column (2) divided by the unadjusted incurred losses in column (1). Although average factors could be calculated from the information contained in Tables 21 through 23, they would differ from the factors shown in this table for the following reasons:

- (1) In calculating such averages, the usual assumption is that the losses are spread evenly throughout the year, yielding the midpoint of each year as the average date of loss. A predominance of losses at a certain time of the year could shift the average accident date away from the midpoint.
- (2) The average trend factors will be slightly higher due to the impact of trend on the deductible.

COLUMN (4) PERCENTAGE SPLIT BETWEEN BUILDINGS, CONTENTS, AND TIME ELEMENT

The current cost factors and loss projection factors are different for buildings, contents, and time element. Therefore, in addition to the reasons cited above, the average trend factors will differ from state to state depending on the buildings/contents/time element split. Companies with splits substantially different from the industrywide averages shown here may find it appropriate to develop trend factors which reflect their own coverage mix.

LOSS DEVELOPMENT

INTRODUCTION

For Commercial Property, losses are evaluated as of September 30, 2018, three months after the end of the latest experience year used in the review. In order to account for development of losses beyond fifteen months and to reflect overall loss development patterns, loss development was incorporated into the adjustment process of incurred losses to their ultimate settlement value.

LOSS DEVELOPMENT PROCEDURES

The application of loss development factors recognizes the fact that not all of the Commercial Property losses for a particular accident year have been finally determined at the time the experience is compiled.

The incurred losses underlying the statewide loss cost level indications were evaluated as of September 30, 2018.

Accident year ended June 30, 2018 includes all losses paid on accidents from July 1, 2017 to June 30, 2018 and all losses outstanding on those accidents as of September 30, 2018, fifteen months after the inception of the accident year. Similarly, accident years ended June 30, 2017, 2016, 2015 and 2014 include all losses paid and outstanding as of 27, 39, 51 and 63 months, respectively, after the inception of the accident year.

Thus, the immature experience reported as of 15, 27, 39 or 51 months must be adjusted to an ultimate settlement basis. This adjustment is accomplished through the use of loss development factors based on the historic multistate Basic Group I, Basic Group II, and Special Causes of Loss incurred losses as shown in Table 28.

TABLE 28
BASIC GROUP I
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 9/2018

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2009	1,050,426,515	1,029,260,907	1,023,569,754	1,032,254,019	1,028,148,127
6/30/2010	957,072,639	952,264,273	938,683,274	930,751,058	926,094,798
6/30/2011	989,660,178	975,973,425	960,866,659	947,897,904	947,075,793
6/30/2012	908,659,121	883,403,689	864,089,877	861,024,004	855,343,194
6/30/2013	936,101,117	901,278,654	887,829,991	876,766,139	862,345,384
6/30/2014	945,799,039	945,335,699	933,368,118	921,144,552	916,203,205
6/30/2015	849,619,662	837,702,539	818,591,368	815,735,642	
6/30/2016	848,223,504	835,485,521	824,397,387		
6/30/2017	893,872,673	861,483,439			
6/30/2018	1,142,176,213				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2009	0.980	0.994	1.008	0.996
6/30/2010	0.995	0.986	0.992	0.995
6/30/2011	0.986	0.985	0.987	0.999
6/30/2012	0.972	0.978	0.996	0.993
6/30/2013	0.963	0.985	0.988	0.984
6/30/2014	1.000	0.987	0.987	0.995
6/30/2015	0.986	0.977	0.997	
6/30/2016	0.985	0.987		
6/30/2017	0.964			
5 POINT AVERAGE	0.980	0.983	0.991	0.993

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $0.980 \times 0.983 \times 0.991 \times 0.993 = 0.948$

27 MONTHS TO ULTIMATE = $0.983 \times 0.991 \times 0.993 = 0.967$

39 MONTHS TO ULTIMATE = $0.991 \times 0.993 = 0.984$

51 MONTHS TO ULTIMATE = $0.993 = 0.993$

TABLE 28
BASIC GROUP II
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 9/2018

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2009	579,314,989	627,438,229	632,493,486	633,319,508	635,016,618
6/30/2010	593,473,536	613,709,201	616,811,155	618,534,968	620,010,002
6/30/2011	1,194,512,759	1,300,964,928	1,312,448,690	1,322,755,319	1,336,992,084
6/30/2012	870,336,643	924,388,549	936,632,146	949,177,607	952,945,803
6/30/2013	748,910,135	792,509,415	805,350,297	818,039,505	825,996,247
6/30/2014	637,750,446	669,816,137	677,712,346	685,417,259	689,783,316
6/30/2015	435,688,364	467,509,244	474,346,909	480,871,412	
6/30/2016	630,699,956	675,870,627	695,978,304		
6/30/2017	788,050,528	869,693,520			
6/30/2018	539,134,252				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2009	1.083	1.008	1.001	1.003
6/30/2010	1.034	1.005	1.003	1.002
6/30/2011	1.090	1.009	1.008	1.011
6/30/2012	1.062	1.013	1.013	1.004
6/30/2013	1.058	1.016	1.016	1.010
6/30/2014	1.050	1.012	1.011	1.006
6/30/2015	1.073	1.015	1.014	
6/30/2016	1.072	1.030		
6/30/2017	1.104			
5 POINT AVERAGE	1.071	1.017	1.012	1.007

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.071 \times 1.017 \times 1.012 \times 1.007 = 1.110$

27 MONTHS TO ULTIMATE = $1.017 \times 1.012 \times 1.007 = 1.036$

39 MONTHS TO ULTIMATE = $1.012 \times 1.007 = 1.019$

51 MONTHS TO ULTIMATE = $1.007 = 1.007$

TABLE 28
SPECIAL CAUSES OF LOSS
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 9/2018

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2009	637,118,000	629,872,649	633,789,200	627,566,991	627,084,722
6/30/2010	691,476,434	678,758,185	676,942,016	674,742,971	674,958,734
6/30/2011	745,957,244	730,915,165	722,472,296	721,768,992	720,008,114
6/30/2012	455,332,279	443,766,392	439,670,150	440,561,037	437,724,920
6/30/2013	428,040,480	430,727,560	421,200,231	423,042,249	424,352,905
6/30/2014	666,406,888	662,491,780	658,064,917	658,931,592	655,772,070
6/30/2015	611,845,522	615,095,309	612,242,351	611,147,871	
6/30/2016	371,521,520	381,417,818	378,954,250		
6/30/2017	417,171,371	430,086,614			
6/30/2018	554,002,545				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2009	0.989	1.006	0.990	0.999
6/30/2010	0.982	0.997	0.997	1.000
6/30/2011	0.980	0.988	0.999	0.998
6/30/2012	0.975	0.991	1.002	0.994
6/30/2013	1.006	0.978	1.004	1.003
6/30/2014	0.994	0.993	1.001	0.995
6/30/2015	1.005	0.995	0.998	
6/30/2016	1.027	0.994		
6/30/2017	1.031			
5 POINT AVERAGE	1.013	0.990	1.001	0.998

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.013 \times 0.990 \times 1.001 \times 0.998 = 1.002$

27 MONTHS TO ULTIMATE = $0.990 \times 1.001 \times 0.998 = 0.989$

39 MONTHS TO ULTIMATE = $1.001 \times 0.998 = 0.999$

51 MONTHS TO ULTIMATE = $0.998 = 0.998$

EXPLANATORY NOTES TO TABLE 28

LOSS DEVELOPMENT

INTRODUCTION

Table 28 shows multistate incurred loss development exhibits for Basic Group I, Basic Group II and Special Causes of Loss. The exhibits on Table 28 are arranged identically for each subline and can be summarized as listing the following information: incurred losses by accident year and age, age-to-age factors by accident year, and age-to-ultimate factors.

INCURRED LOSSES

The multistate incurred losses are shown by accident year and age at the top of Table 28. The multistate incurred losses are evaluated as of 15, 27, 39, 51 and 63 months. For Basic Group II, losses due to hurricanes reflected in the modeled hurricane loss costs have been removed from the experience for each rating territory and loss month.

AGE-TO-AGE DEVELOPMENT FACTORS

Age-to-age development factors or link ratios are calculated for each accident year. These age-to-age factors are calculated by dividing the incurred losses evaluated at each age by the incurred losses evaluated at the immediately preceding age. For example, 27:15 month age-to-age factors are calculated by taking the losses evaluated as of 27 months and dividing them by the losses evaluated as of 15 months, for each accident year. Age-to-age development factors are also calculated for 39:27 months, 51:39 months and 63:51 months. Latest five-year averages are then determined for each age-to-age interval.

AGE-TO-ULTIMATE DEVELOPMENT FACTORS

Age-to-ultimate factors are then calculated for the latest four years by multiplying the five-year average age-to-age development factors. These age-to-ultimate factors are then used in the adjustment of incurred losses to develop losses to their ultimate settlement value.

EXCESS LOSS PROCEDURES

INTRODUCTION

If not addressed, the presence or absence of large losses during the review period can produce significant fluctuations in loss cost levels. In order to develop a more stable body of experience, large losses have been smoothed. This procedure removes any excess losses from the experience and applies excess loss factors to the resultant state normal losses to generate the adjusted incurred losses. The adjusted losses developed in this manner replace the incurred losses in the loss cost level evaluation.

BASIC GROUP I

First, the excess portion of each large loss is removed from the trended loss experience.

Individual claim amounts that result from the same occurrence are grouped together, and if the total loss for one occurrence exceeds the normal loss cutoff (at 2005 cost levels), the total loss is identified as a large loss. Each large loss is then split into its normal and excess portions based on the normal loss cutoff.

The Basic Group I normal loss cutoff begins at \$250,000 and varies with the size of loss up to a maximum normal amount (approached asymptotically) of \$1,250,000. (The formula and a graph are shown on Table 29.) The portion of each large loss exceeding the cutoff is considered excess and the portion of any loss up to the cutoff is considered normal.

As noted above, the excess loss procedure is performed on trended loss experience (i.e. loss experience adjusted to prospective cost levels by the current cost factors, loss projection factors, and loss trend adjustment factors (for claim cost only) shown in Tables 21 through 22). The loss trend adjustment for frequency trend is not reflected at this step in the process. The normal breakpoint of \$250,000 for BGI and the parameters in the normal loss formula are at 2005 cost levels and therefore have been similarly adjusted to prospective cost levels.

Both the normal and total incurred losses are aggregated over all states by construction, protection, and amount of insurance intervals. The most recent ten years of experience are used in this analysis. Excess loss factors by construction, protection and amount of insurance are then calculated as the ratios of the ten year multistate incurred losses to the ten-year multistate normal losses.

These factors are then smoothed by fitting curves (by amount of insurance intervals) to the indicated factors. The resulting factors are then balanced so the original ten-year multistate incurred loss level is maintained.

EXCESS LOSS PROCEDURES (cont'd)

BASIC GROUP I (cont'd)

The excess factors are then applied to the state normal losses, which are maintained in the same detail (construction, protection and amount of insurance) as well as by year, territory, rating group and TOP. The state normal losses used in this calculation have also been trended for frequency.

The excess loss factors vary by construction, protection and the amount of insurance because these are the most significant severity-related rating variables.

BASIC GROUP II

Since catastrophic wind losses affect both the frequency and severity of loss, the Basic Group II excess procedure identifies periods of overall adverse experience, rather than individual large losses. Also, due to the extreme volatility of windstorm losses, a long-term review period (1950 - present) is used to estimate the expected excess losses.

Loss ratio cutoffs are used to determine normal losses, state excess losses, and regional excess losses for each year in the long-term review period. The application of these cutoffs is detailed in the explanatory notes to Table 31A. The state excess losses are used to determine the state excess component of the state excess multiplier, and the regional excess losses are used to determine the regional excess component. (Table 31B is a list of states by region.) The state excess multiplier is derived in such a manner as to provide an estimate of the expected excess loss dollars per normal loss dollar.

The state excess multiplier is applied to each accident year in the ten-year experience period used in the review. In this way, a review database is created reflecting both the current normal loss experience and the average excess loss experience based on the long-term review. This allows a concurrent evaluation of both the normal and the excess components of the BG II loss cost level.

SPECIAL CAUSES OF LOSS

Similar to Basic Group II, the Special Causes of Loss (SCL) smoothing procedure uses a loss ratio approach to reflect both the frequency and severity of unusual loss events which may produce significant fluctuations in loss cost levels. The excess procedure uses longer term statewide SCL experience (1985 - present) to account for the volatile nature of weather related losses (water damage from bursting pipes, or the weight of ice, sleet, or snow) which are the predominant cause of large SCL losses in a given experience period. A monthly normal loss ratio cutoff of 2.0 is used to define normal and excess losses. The resulting ratio of excess to normal losses over the long-term experience period is then applied to the normal losses used in the loss cost level review. SCL has a lower loss ratio cutoff than that used in Basic Group II in order to reflect the less catastrophic nature of unusual SCL loss events. The calculations underlying the smoothing procedure are described in the Explanatory Notes to Table 32.

**TABLE 29 - COUNTRYWIDE BASIC GROUP I EXCESS LOSS FACTORS
BY CONSTRUCTION, PROTECTION AND EXPOSURE**

		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 1-3	Prot. 1-4	1.000	1.043	1.089	1.136	1.186	1.237	1.291	1.347	1.405	1.467	2.048
	Prot. 5-7	1.000	1.054	1.112	1.172	1.235	1.302	1.373	1.448	1.526	1.609	2.436
	Prot. 8-10	1.000	1.062	1.129	1.199	1.274	1.353	1.437	1.527	1.622	1.723	2.770

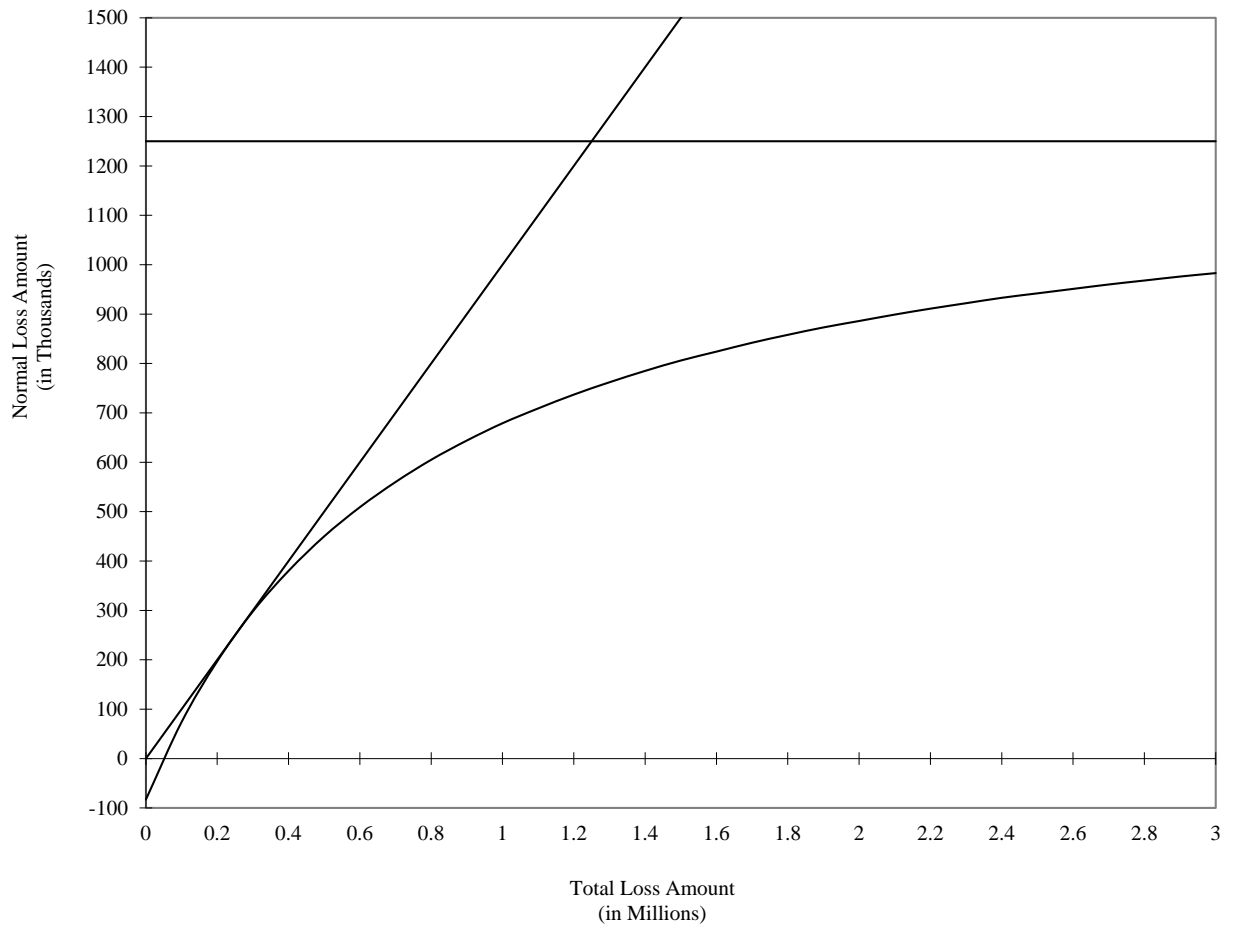
		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 4-6	Prot. 1-4	1.000	1.042	1.086	1.132	1.180	1.229	1.281	1.335	1.392	1.450	2.005
	Prot. 5-7	1.000	1.053	1.109	1.167	1.229	1.294	1.363	1.435	1.511	1.591	2.386
	Prot. 8-10	1.000	1.061	1.126	1.195	1.267	1.345	1.427	1.514	1.606	1.704	2.712

*	<u>Amount of Insurance</u>	<u>Intervals</u>
	1	0-421,000
	2	421,001-500,000
	3	500,001-700,000
	4	700,001-1,000,000
	5	1,000,001-1,500,000
	6	1,500,001-2,500,000
	7	2,500,001-3,500,000
	8	3,500,001-5,500,000
	9	5,500,001-7,500,000
	10	7,500,001-10,000,000
	11	10,000,001 and over

Table 29 (cont'd)

Countrywide Basic Group I
Normal vs. Total Loss Amount

$$\text{Normal Loss} = \$1,250,000 \times (1 - (\$800,000 \div (\text{Total Loss} + \$750,000)))$$



EXPLANATORY NOTES TO TABLES 29

COUNTRYWIDE BASIC GROUP I EXCESS LOSS FACTORS

EXCESS LOSS FACTORS

The multistate excess loss factors are the ratios of the ten-year multistate adjusted incurred losses to the ten-year multistate adjusted normal losses (both adjusted for severity trend). They are determined separately by construction, protection and amount of insurance range. Due to credibility considerations, both constructions and protections have been consolidated as shown. The amount of insurance ranges are also shown.

**TENNESSEE
TABLE 30**

**BASIC GROUP I
ADDITIONAL EXCESS LOSS INFORMATION**

	(1)	(2)	(3)	(4)	(5)	(6)
	TRENDED INCURRED LOSSES	TRENDED NORMAL LOSSES	STATE NORMAL % (2) / (1)	MULTI- STATE NORMAL %	ADJUSTED INCURRED LOSSES	STATE AVERAGE EXCESS FACTOR (5) / (2)
YEAR						
2014	26,324,259	20,460,662	77.7%	72.1%	29,035,316	1.419
2015	25,210,964	19,961,182	79.2%	74.8%	26,056,343	1.305
2016	18,297,757	17,076,323	93.3%	70.4%	20,717,639	1.213
2017	76,671,127	40,846,628	53.3%	73.5%	63,219,772	1.548
2018	20,959,042	16,055,295	76.6%	67.3%	22,736,117	1.416

EXPLANATORY NOTES TO TABLE 30

BASIC GROUP I ADDITIONAL EXCESS LOSS INFORMATION

COLUMN (1) TRENDED INCURRED LOSSES

The trended incurred losses are the aggregate of all individually-trended loss records prior to any adjustment for large losses. They are shown here fully trended for severity.

COLUMN (2) TRENDED NORMAL LOSSES

The normal losses are the aggregate of the normal portions of each loss occurrence. These are also fully trended.

COLUMN (3) STATE NORMAL PERCENTAGE

The state normal percentages are the statewide normal losses divided by the statewide trended incurred losses. These percentages can be used in conjunction with the multistate percentages and actual dollar amounts of normal losses to assess the state loss experience. For example, consistently lower state normal percentages relative to multistate normal percentages could indicate that the state has a greater propensity for large losses.

COLUMN (4) MULTISTATE NORMAL PERCENTAGES

The multistate normal percentages are the multistate normal losses divided by the multistate trended incurred losses. As noted above these can be used as a yardstick against which the statewide experience can be measured.

COLUMN (5) ADJUSTED INCURRED LOSSES

The adjusted incurred losses are the totals across all constructions, protections and exposures of the fully trended normal losses multiplied by the excess loss factors.

COLUMN (6) STATE AVERAGE EXCESS FACTOR

The state average excess factors are the adjusted incurred losses in column (5) divided by the normal losses in column (2). These factors represent the annual averages of the factors calculated separately by construction, protection and amount of insurance. The average excess factor reflects the normal loss mix by construction, protection and exposure. Heavy concentration in those subsets of the data with high excess factors will result in large average factors.

TENNESSEE
TABLE 31A

DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER

	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	STATE EXCESS LOSS RATIO	REGIONAL EXCESS LOSS RATIO
1950	1,309,716	276,744	276,744	0.211		
1951	1,419,791	246,115	246,115	0.173		
1952	1,659,418	847,825	847,825	0.511		
1953	1,784,176	608,171	608,171	0.341		
1954	1,878,123	306,676	306,676	0.163		
1955	1,945,812	1,305,248	1,305,248	0.671		
1956	2,020,452	671,279	671,279	0.332		
1957	2,173,972	897,164	897,164	0.413		
1958	2,171,310	706,391	706,391	0.325		
1959	2,230,121	1,005,047	1,005,047	0.451		
1960	2,306,777	667,972	667,972	0.290		
1961	2,441,166	910,864	910,864	0.373		
1962	2,520,173	774,177	774,177	0.307		
1963	2,429,105	798,504	798,504	0.329		
1964	2,280,935	1,114,441	1,114,441	0.489		
1965	2,220,651	1,273,132	1,273,132	0.573		
1966	2,245,379	1,031,091	1,031,091	0.459		
1967	2,274,471	1,789,122	1,667,187	0.733	0.052	0.002
1968	2,151,323	1,101,491	1,101,491	0.512		
1969	2,364,520	847,807	847,807	0.359		
1970	3,169,295	2,055,949	2,055,949	0.649		
1971	3,105,046	4,403,788	2,275,999	0.733	0.523	0.162
1972	3,440,045	1,961,511	1,961,511	0.570		
1973	3,628,117	1,892,555	1,892,555	0.522		
1974	4,020,236	6,132,102	2,946,833	0.733	0.583	0.209
1975	4,906,156	5,829,374	3,596,212	0.733	0.377	0.078
1976	5,834,836	2,690,773	2,690,773	0.461		
1977	7,332,016	4,159,643	4,159,643	0.567		
1978	9,065,816	4,304,820	4,304,820	0.475		
1979	9,758,852	4,623,006	4,623,006	0.474		
1980	9,327,979	6,815,879	5,198,230	0.557	0.152	0.022
1981	8,211,007	4,166,746	4,166,746	0.507		
1982	7,314,096	4,893,432	4,893,432	0.669		
1983	6,995,220	7,083,816	5,388,491	0.770	0.212	0.031
1984	6,839,136	4,222,090	4,222,090	0.617		
1985	9,295,692	4,368,677	4,368,677	0.470		
1986	12,054,576	5,861,309	5,861,309	0.486		
1987	11,838,105	4,083,801	4,083,801	0.345		
1988	12,687,285	6,507,831	4,882,992	0.385	0.119	0.009
1989	11,245,413	4,923,669	4,923,669	0.438		

TENNESSEE
TABLE 31A

DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER

	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	STATE EXCESS LOSS RATIO	REGIONAL EXCESS LOSS RATIO
1990	9,882,348	4,546,060	4,546,060	0.460		
1991	9,789,840	10,370,325	6,177,323	0.631	0.361	0.067
1992	9,856,905	1,754,324	1,754,324	0.178		
1993	9,271,254	4,411,877	4,406,121	0.475	0.001	
1994	8,778,903	3,975,448	3,975,448	0.453		
1995	9,318,315	7,056,861	5,500,280	0.590	0.152	0.015
1996	9,296,346	4,588,050	4,588,050	0.494		
1997	8,975,454	5,918,855	5,830,965	0.650	0.010	
1998	8,303,481	25,788,278	7,654,352	0.922	1.090	1.094
1999	8,536,770	19,624,795	6,804,570	0.797	0.840	0.662
2000	8,397,462	4,086,823	4,086,823	0.487		
2001	8,651,727	2,687,207	2,687,207	0.311		
2002	10,970,148	5,141,291	5,141,291	0.469		
2003	12,486,027	42,039,972	7,430,015	0.595	1.440	1.332
2004	15,535,197	7,292,653	6,638,829	0.427	0.041	0.001
2005	17,418,711	5,102,508	5,102,508	0.293		
2006	18,971,556	23,063,684	8,595,199	0.453	0.520	0.243
2008	32,108,694	75,756,213	20,213,457	0.630	0.969	0.760
2009	22,336,718	18,657,687	15,038,041	0.673	0.148	0.014
2010	23,000,900	12,150,419	11,729,063	0.510	0.018	
2011	22,367,109	110,615,465	21,772,474	0.973	1.435	2.537
2012	22,233,837	50,599,634	18,241,361	0.820	0.905	0.551
2013	23,968,184	14,463,447	14,463,447	0.603		
2014	26,053,587	8,752,260	8,752,260	0.336		
2015	29,307,905	8,366,143	8,366,143	0.285		
2016	31,299,211	6,132,786	6,132,786	0.196		
2017	33,766,136	52,048,581	29,453,396	0.872	0.506	0.163
2018	36,466,028	10,380,153	10,380,153	0.285		
TOTALS				34.044	10.454	7.952

(7) STATE EXCESS COMPONENT = (SELR / NLR) = 0.307

(8) REGIONAL EXCESS COMPONENT = 0.080

(9) STATE EXCESS MULTIPLIER = (1 + SEC) * (1 + REC) = 1.412

NOTE: FOR YEARS PRIOR TO 2007, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 12/31. FOR YEARS 2009 TO 2018, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 06/30. THE DISPLAYED YEAR 2008 INCLUDES DATA FOR FIRST QUARTER 2007 THROUGH SECOND QUARTER 2008.

EXPLANATORY NOTES TO TABLE 31A

COLUMN (1)

EARNED PREMIUMS

The unadjusted earned premiums are shown for each year.

COLUMN (2)

INCURRED LOSSES

The unadjusted incurred losses are shown for each year.

COLUMN (3)

NORMAL INCURRED LOSSES

Normal losses which are shown for each year are defined as follows:

- for losses reported under CSP (for which month of loss detail is available), that portion of each month's losses which does not exceed 2.5 times that month's earned premiums.
- for losses reported under CRSP, SCOH and SMP (for which month of loss detail is not available), that part of each year's losses which does not exceed 0.733 times that year's earned premiums.

COLUMN (4)

NORMAL LOSS RATIO

For each year in the excess review period, the normal loss ratio is calculated as the ratio of the normal losses (for CSP data the sum of each month's normal losses) to the earned premiums for the same year.

COLUMN (5)

STATE EXCESS LOSS RATIO

The state excess loss ratio is the ratio of the state excess losses to the unadjusted earned premium. The state excess losses are determined by the following formulas:

- $$EP \times \frac{20(LR-2.5)}{(LR-2.5)+20} \text{ if } LR > 2.5; \text{ otherwise } 0$$

for CSP, where EP = the monthly earned premiums, LR = the monthly loss ratio and the yearly state excess losses are the sum of the monthly state excess losses.

- $$EP \times \frac{2.2(LR-.733)}{(LR-.733)+2.2} \text{ if } LR > 0.733; \text{ otherwise } 0$$

for CRSP, SCOH, SMP, where EP = the earned premiums and LR = the yearly loss ratio.

EXPLANATORY NOTES TO TABLE 31A (cont'd)

COLUMN (6)

REGIONAL EXCESS LOSS RATIO

If $LR > NLR$, then the regional excess loss ratio is:

regional excess loss ratio = $LR - SELR - NLR$

where $SELR$ = the state excess loss ratio,
 NLR = the normal loss ratio, and
 LR = the loss ratio

LINE (7)

STATE EXCESS COMPONENT

The state excess component is determined by dividing the sum of all state excess loss ratios by the sum of all normal loss ratios (where the sum is taken across all accident years).

LINE (8)

REGIONAL EXCESS COMPONENT

The regional excess component is determined by dividing the weighted average (determined, in each case, against the latest year unadjusted premium distribution) of the sum of regional excess loss ratios of all the states in the region by the weighted average of the sum of all loss ratio points retained by a state (normal and state excess loss ratios) of all the states in the region. See Table 31B for the appropriate BG II region for the state.

LINE (9)

STATE EXCESS MULTIPLIER

The state excess multiplier is derived by taking the product of the state excess component and the regional excess component.

TABLE 31B

BASIC GROUP II REGIONS

NORTHEAST REGION

CONNECTICUT
DELAWARE
DIST OF COLUMBIA
MAINE
MARYLAND
MASSACHUSETTS
NEW HAMPSHIRE
NEW JERSEY
NEW YORK
PENNSYLVANIA
RHODE ISLAND
VERMONT
VIRGINIA

PLAINS REGION

ARKANSAS
COLORADO
IOWA
KANSAS
MINNESOTA
MISSOURI
MONTANA
NEBRASKA
NORTH DAKOTA
OKLAHOMA
SOUTH DAKOTA
WYOMING

SOUTHEAST REGION

ALABAMA
FLORIDA
GEORGIA
LOUISIANA
MISSISSIPPI
NORTH CAROLINA
SOUTH CAROLINA
HAWAII

MIDWEST REGION

ILLINOIS
INDIANA
KENTUCKY
MICHIGAN
OHIO
TENNESSEE
WEST VIRGINIA
WISCONSIN

WEST REGION

ARIZONA
CALIFORNIA
IDAHO
NEVADA
NEW MEXICO
OREGON
UTAH
WASHINGTON
ALASKA

TENNESSEE

TABLE 32 - DEVELOPMENT OF SPECIAL CAUSES OF LOSS EXCESS MULTIPLIER

YEAR	(1) EARNED PREMIUMS	(2) INCURRED LOSSES	(3) NORMAL INCURRED LOSSES	(4) NORMAL LOSS RATIO	(5) STATE EXCESS LOSS RATIO
1986	6,855,810	3,912,773	3,912,773	0.571	
1987	8,306,496	3,088,428	3,088,428	0.372	
1988	8,381,700	2,705,133	2,705,133	0.323	
1989	8,027,160	3,669,548	3,669,548	0.457	
1990	8,952,936	12,047,634	6,394,713	0.714	0.632
1991	9,975,594	6,431,552	6,431,552	0.645	
1992	9,659,322	6,313,569	6,313,569	0.654	
1993	9,196,731	7,823,438	6,360,579	0.692	0.159
1994	9,923,664	9,881,724	7,430,496	0.749	0.247
1995	10,381,557	5,887,479	5,697,522	0.549	0.018
1996	10,497,117	9,642,057	7,808,942	0.744	0.175
1997	10,563,951	7,109,031	7,109,031	0.673	
1998	10,359,108	8,922,571	7,827,420	0.756	0.105
1999	10,485,483	6,992,755	6,992,755	0.667	
2000	10,420,917	5,835,475	5,835,475	0.560	
2001	10,276,248	6,863,688	6,863,688	0.668	
2002	10,900,428	7,767,673	7,767,673	0.713	
2003	12,156,390	15,572,933	8,966,650	0.738	0.543
2004	13,841,547	5,747,961	5,747,961	0.415	
2005	14,528,421	7,509,586	7,212,954	0.496	0.021
2006	13,898,715	5,217,685	5,217,685	0.375	
2007	14,248,254	8,291,668	8,291,668	0.582	
2008	13,250,682	8,489,880	8,489,880	0.641	
2009	14,480,292	10,162,385	10,130,599	0.700	0.002
2010	15,125,448	21,878,142	10,792,380	0.714	0.732
2011	14,771,949	20,988,563	14,632,061	0.991	0.430
2012	14,472,471	10,130,842	10,130,842	0.700	
2013	15,315,219	6,884,922	6,884,922	0.450	
2014	16,335,380	17,928,481	11,050,196	0.676	0.422
2015	17,954,871	27,142,438	10,384,212	0.578	0.934
2016	19,343,905	8,125,312	8,125,312	0.420	
2017	20,290,926	10,943,857	10,943,857	0.539	
2018	20,937,585	12,984,942	9,759,501	0.466	0.154
TOTALS		312,894,125	248,969,977	19.988	4.574

(6) STATE EXCESS COMPONENT = (SELR / NLR) = 0.229

(7) STATE EXCESS MULTIPLIER = (1 + SEC) = 1.229

EXPLANATORY NOTES TO TABLE 32

SPECIAL CAUSES OF LOSS ADDITIONAL EXCESS LOSS FACTOR

COLUMN (1) EARNED PREMIUMS

These are the unadjusted earned premiums for each year.

COLUMN (2) INCURRED LOSSES

These are the unadjusted incurred losses for each year.

COLUMN (3) NORMAL INCURRED LOSSES

The normal incurred losses are shown for each year. The normal incurred losses are defined to be that portion of each month's losses which does not exceed 2.0 times the monthly earned premiums.

COLUMN (4) NORMAL LOSS RATIO

The normal loss ratio for each year is the ratio of the normal incurred losses for each year divided by the earned premiums for the year.

Column (4) = Column (3) ÷ Column (1)

COLUMN (5) EXCESS LOSS RATIO

The excess loss ratio for each year is the ratio of the excess losses to the earned premium for the year. The excess losses are calculated as the incurred losses minus the normal incurred losses for each year.

LINE (6) EXCESS COMPONENT

The excess component is determined by dividing the sum of the excess loss ratios by the sum of the normal loss ratios, where the sums are taken across all years in the excess review period.

LINE (7) EXCESS MULTIPLIER

The excess multiplier is derived by adding unity to the excess component.

OVERVIEW

APPLICATION OF CREDIBILITY

INTRODUCTION

Credibility, Z , is a weight given to the most recent body of data. The complement of credibility, $1-Z$, is the weight assigned to net trend. The final estimate is a weighted average obtained by using the formula $C = Z \times R + (1-Z) \times N$, where:

Z = credibility

C = final estimate

R = estimate based on the most recent data

N = net trend

Credibility may range from 0 to 1, where $Z=1$ is full credibility and $Z=0$ is no credibility. The actual numerical value of Z is calculated by considering how the state's volume of experience compares with an established full credibility standard. Credibility is capped at 25% if the credibility calculated is below 25%. See Tables 33, 33A, and 34 for a complete explanation of the credibility standards for Basic Group I, Basic Group II, and Special Causes of Loss.

TENNESSEE

TABLE 33 - BASIC GROUP I STATEWIDE CREDIBILITY CALCULATION

(1a) FULL CREDIBILITY CLAIMS STANDARD FOR FREQUENCY WITH (P,K) = (95.00% , 5.00%)	1,537
(1b) SEVERITY MODIFICATION FACTOR	8.700
(1c) FULL CREDIBILITY CLAIMS STANDARD ADJUSTED FOR SEVERITY ((1a) X (1b))	13,372
(2) MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	344.398
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1c)X(2)	4,605,290
(4) FIVE YEAR STATEWIDE EARNED RISKS	552,211
(5) FIVE YEAR AGGREGATE LOSS COSTS	165,917,688
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	300.461
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,383,710,039
(8) STATEWIDE CREDIBILITY ((5)/(7))**(.5)	34.6%

TENNESSEE

TABLE 33A - BASIC GROUP II STATEWIDE CREDIBILITY CALCULATION

(1) FULL CREDIBILITY CLAIMS STANDARD	30,000
(2) MULTISTATE TEN YEAR RATIO OF EARNED RISKS TO CLAIMS	144.328
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,329,840
(4) TEN YEAR STATEWIDE EARNED RISKS	1,077,361
(5) TEN YEAR AGGREGATE LOSS COSTS	273,853,326
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	254.189
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,100,597,700
(8) STATEWIDE CREDIBILITY ((5)/(7))**(.5)	49.9%

TENNESSEE

TABLE 34 - SPECIAL CAUSES OF LOSS STATEWIDE CREDIBILITY CALCULATION

(1) FULL CREDIBILITY CLAIMS STANDARD	25,000
(2) MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	181.539
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,538,475
(4) FIVE YEAR STATEWIDE EARNED RISKS	543,282
(5) FIVE YEAR AGGREGATE LOSS COSTS	80,713,622
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	148.567
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	674,267,615
(8) STATEWIDE CREDIBILITY ((5)/(7))**(.5)	34.6%

EXPLANATORY NOTES TO TABLES 33, 33A AND 34

BASIC GROUP I, BASIC GROUP II, AND SPECIAL CAUSES OF LOSS
STATEWIDE CREDIBILITY CALCULATION

LINE (1a)
(BGI only)

Full Credibility Claims Standard of Frequency

Based on a Poisson distribution, the minimum sample size of claims is determined such that the probability that the actual number of claims will be within 5% of the expected number of claims is greater than 95%.

LINE (1b)
(BGI only)

Severity Modification Factor

This factor, defined as $(1 + S^2 / M^2)$, is used to modify the claims standard to reflect variance due to severity, where S is the standard deviation and M is the mean of the loss severity distribution (on a normal loss basis).

LINE (1c) - BGI
LINE (1) - BGII, SCL

Full Credibility Claims Standard

For Basic Group I, this standard is the product of the frequency standard in line (1a) and the severity modification factor in line (1b). For Basic Group II and Special Causes of Loss, standards for full credibility of 30,000 claims for BGII and 25,000 claims for SCL were selected to balance stability and responsiveness.

LINE (2)

Multistate Experience Period Ratio of Earned Risks to Claims

This ratio was determined based on Commercial Statistical Plan data for the latest experience period (Five years for Basic Group I and Special Causes of Loss; Ten years for Basic Group II).

LINE (3)

Full Credibility Earned Risks Standard

To translate the claims standard to an equivalent standard based on earned risks, the claims standard (line (1c) for BGI, (1) for BGII and SCL) is multiplied by the multistate experience period ratio of earned risks to claims (line (2)).

LINE (4)

Experience Period Statewide Earned Risks

This is the number of earned risks in the state for the experience period.

EXPLANATORY NOTES TO TABLE 33, 33A, AND 34 (cont'd)

LINE (5) Experience Period Aggregate Loss Costs

These are the state's experience period adjusted aggregate loss costs.

LINE (6) Statewide Experience Period Ratio of Aggregate Loss Costs to Earned Risks

This ratio is determined by dividing the state's experience period adjusted aggregate loss costs by its experience period earned risks.

LINE (7) Full Credibility Aggregate Loss Costs Standard

To translate the risk standard into an aggregate loss cost standard on a state by state basis, the ratio (line (6)) is multiplied by the full credibility earned risks standard (line (3)).

LINE (8) Credibility

The state's credibility is calculated by using the square root credibility formula:

$$Z = \sqrt{\frac{P}{C}}$$

where Z = credibility,
P = statewide five-year adjusted aggregate loss costs (line (5)), and
C = full credibility aggregate loss costs standard (line (7)).

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COMMERCIAL PROPERTY INSURANCE

SECTION D - SCOPE OF REVISION

Basic Group I Rating Group Definitions (Table 36)	D2-6
Special Causes of Loss Category Definitions (Table 37)	D7-9
Unadjusted Loss Costs, Incurred Losses, Experience Ratios (Tables 38 - 40)	D10-12
Loss Adjustment Expense Factors (Table 41)	D13-14

TABLE 36

BASIC GROUP I RATING GROUP DEFINITIONS

THE FOLLOWING CSP CLASSES COMPRISE THE BASIC GROUP I RATING GROUPS

01 APARTMENTS

- 0311 Apartments without Mercantile Occupancies - Up to 10 Units
- 0312 Apartments without Mercantile Occupancies - 11 to 30 Units
- 0313 Apartments without Mercantile Occupancies - Over 30 Units
- 0321 Apartments with Mercantile Occupancies - Up to 10 Units
- 0322 Apartments with Mercantile Occupancies - 11 to 30 Units
- 0323 Apartments with Mercantile Occupancies - Over 30 Units
- 0331 Residential Condominiums without Mercantile Occupancies - Up to 10 Units
- 0332 Residential Condominiums without Mercantile Occupancies - 11 to 30 Units
- 0333 Residential Condominiums without Mercantile Occupancies - Over 30 Units
- 0341 Residential Condominiums with Mercantile Occupancies - Up to 10 Units
- 0342 Residential Condominiums with Mercantile Occupancies - 11 to 30 Units
- 0343 Residential Condominiums with Mercantile Occupancies - Over 30 Units

02 OTHER HABITATIONAL

- 0074 Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories - Up to 10 Units
- 0075 Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories - 11 to 30 Units
- 0076 Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories - Over 30 Units
- 0077 Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes - Up to 10 Units
- 0078 Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes - 11 to 30 Units
- 0079 Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes - Over 30 Units
- 0196 Dwellings Written in Conjunction with Commercial Risks from the Commercial Lines Manual - 1 Family
- 0197 Dwellings Written in Conjunction with Commercial Risks from the Commercial Lines Manual - 2 Family
- 0198 Dwellings Written in Conjunction with Commercial Risks from the Commercial Lines Manual - 3 and 4 Family
- 0300 Large Area Housing Developments (Special Rating Treatment)

03 RESTAURANTS & BARS

- 0541 Bars and Taverns
- 0542 Restaurants with Commercial Cooking
- 0545 Restaurants with Limited Cooking

04 OTHER MERCANTILES

- 0431 Sole Occupancy Mercantile, Over 15,000 Square Feet, Building Coverage, Other than Food Risks
- 0432 Sole Occupancy Mercantile, Over 15,000 Square Feet, Food Risks, Buildings and Personal Property
- 0433 Multiple Occupancy Mercantile, Over 15,000 Square Feet, Building Coverage Only, Not Fire Class Rated
- 0434 Multiple Occupancy Mercantile, Less than 15,000 Square Feet, Building Coverage Only, Not Fire Class Rated
- 0511 Risks Having Low Susceptibility Personal Property, NOC
- 0512 Tire, Battery and Accessory Dealers Without Tire Recapping and Vulcanizing
- 0520 Wearing Apparel, Textiles, Shoes
- 0531 Alcoholic Beverages other than Bars
- 0532 Food Products including Retail Bakeries (no baking and no cooking on premises; sales only); Beverages other than Alcoholic
- 0533 Retail Bakeries - Baking on Premises (No delivery to other outlets)
- 0534 Food Products with Limited Cooking, Excluding Bakeries
- 0550 Motor Vehicle (Auto, Aircraft, Marine) Sales, No Repair
- 0561 Boat and Marine Supply Dealers
- 0562 Drugs
- 0563 Electrical Goods, Hardware and Machinery
- 0564 Furniture and Home Furnishings other than Appliances
- 0565 Jewelry
- 0566 Sporting Goods
- 0567 Risks Having Moderate Susceptibility Personal Property, NOC
- 0570 Risks Having High Susceptibility Personal Property, NOC
- 0580 Greenhouses
- 0581 Multiple Occupancy Mercantile, Fire Class Rated, without furniture Occupant
- 0582 Multiple Occupancy Mercantile, Fire Class Rated, with furniture Occupant

05 PUBLIC BUILDINGS

- 0701 Governmental Offices
- 1000 Penal Institutions
- 1051 Museums, Libraries, Art Galleries (non-profit)
- 1070 Other Public Buildings, Fire Dept., Police, Water/Sewer

06 CHURCHES

- 0900 Churches and Synagogues

07 SCHOOLS

- 1052 Schools, Academic

08 OFFICE AND BANKS

- 0702 Non-Governmental Offices and Banks

09 RECREATIONAL FACILITIES

- 0755 Golf Clubs, Tennis Clubs and Similar Sports Facilities with Cooking
- 0756 Golf Clubs, Tennis Clubs and Similar Sports Facilities without Cooking
- 0757 Clubs, NOC, Including Fraternal and Union Halls
- 0831 Motion Picture Studios
- 0832 Theaters
- 0833 Drive-in Theaters
- 0834 Skating Rinks--Roller Rinks
- 0841 Bowling Alleys
- 0843 Halls and Auditoriums
- 0844 Recreational Facilities, NOC
- 0845 Boys' and Girls' Camps
- 0846 Dance Halls, Ballrooms & Discotheques
- 0951 Gambling Casinos with Restaurants
- 0952 Gambling Casinos without Restaurants

10 HOTELS & MOTELS

- 0742 Motels and Hotels with Restaurant - Up to 10 Units
- 0743 Motels and Hotels with Restaurant - 11 to 30 Units
- 0744 Motels and Hotels with Restaurant - Over 30 Units
- 0745 Motels and Hotels without Restaurant - Up to 10 Units
- 0746 Motels and Hotels without Restaurant - 11 to 30 Units
- 0747 Motels and Hotels without Restaurant - Over 30 Units

11 HOSPITALS & NURSING HOMES

- 0851 Hospitals
- 0852 Nursing and Convalescent Homes

12 BUILDINGS UNDER CONSTRUCTION

- 1150 Buildings Under Construction

13 MOTOR VEHICLE RISKS

- 0931 Auto Parking Garages, Car Washes
- 0932 Gasoline Service Stations
- 0933 Aircraft Hangars with Repairing, Motor Vehicle Repairing Including Auto Body Shops, with or without Sales
- 0934 Tire Recapping and Vulcanizing with or without Sales
- 0940 Aircraft Hangars without Repairing

14 OTHER NON-MANUFACTURING

- 0911 Dry Cleaner and Dyeing Plants, other than Self-Service
- 0912 Laundries, other than Self-Service
- 0913 Self-Service Laundries and Dry Cleaners
- 0921 Light Hazard Service Occupancies
- 0922 Services Occupancies, Other than Light Hazard, NOC
- 0923 Funeral Homes
- 1180 Vacant Buildings
- 1185 Billboards and Signs
- 1190 Yard Property, NOC, Including Property in the Open

15 STORAGE

- 1200 Piers, Wharves, Bridges
- 1211 Freight Terminals
- 1212 General Storage Warehouses - Bailee
- 1213 Miscellaneous Products Storage - (other than Retail or Wholesale or Cold Storage)
- 1220 Household Goods Storage
- 1230 Cold Storage Warehouses
- 1251 Farm Products (other than Grain, Cotton, Tobacco)
- 1252 Grain, Seed, Bean Warehouses
- 1300 Cotton Compresses and Storage
- 1400 Waste and Reclaimed Material, including Yards
- 1450 Whiskey and Liquor Warehouses in Connection with Distilleries
- 1501 Tobacco Warehouses, Storage
- 1502 Tobacco Sales Warehouses
- 1550 Grain Elevators - Terminal
- 1610 Grain Elevators - Country
- 1650 Building Supply Yards, including Retail Lumberyards, Coal and Coke Yards
- 1700 Mill Yards
- 1751 Oil Distributing, Oil Terminals and LPG Tank Farms, Including Stock
- 1752 Oil Distributing, Oil Terminals and LPG Tank Farms, Excluding Stock

17 FOOD MANUFACTURING

- 2000 Dairy Products
- 2059 Meat, Poultry and Fish Products
- 2150 Grain Milling, Including Feed, Stock, Flour Mills
- 2200 Bakeries and Bakery Products
- 2250 Fruit, Nut and Vegetable Products
- 2300 Sugar, Molasses and Syrup Refining
- 2350 Beverages excluding Alcoholic Beverages
- 2400 Breweries
- 2459 Distilleries and Wineries
- 2550 Tobacco and Tobacco Products
- 2600 Food Products, NOC

18 WOOD MANUFACTURING

- 3809 Basic Wood Production including Veneer and Plywood Plants
- 3959 Furniture and Other Wood Products, NOC

19 WEARING APPAREL

- 2800 Textile Mill Products - Natural and Synthetic
- 3009 Clothing and Apparel including Furs and Finished Products

20 CHEMICAL MANUFACTURING

- 5000 Chemicals and Pharmaceuticals - Low Hazard
- 5050 Chemicals and Pharmaceuticals - Moderate Hazard
- 5100 Chemicals and Pharmaceuticals - High Hazard

21 METAL MANUFACTURING

- 6810 Heavy Metalworking including Basic Metalwork
- 6850 Metalworking, NOC

22 OTHER MANUFACTURING

- 2750 Cotton Gins
- 3409 Leather and Leather Products
- 4400 Paper Manufacturing
- 4450 Paper and Paper Products Processing
- 4809 Printing
- 5500 Plastic Products
- 5759 Rubber Products
- 6009 Stone, Glass, Concrete, Gypsum, Brick, Tile and Clay Products, Abrasives, Plaster and Other Mineral, NOC
- 6210 Mining Other than Coal
- 6250 Coal Mining
- 6900 Precision Products, Electronic, Radio and Television Manufacturing

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORY 01 - BUILDING AND TIME ELEMENT COVERAGE

CATEGORY 02 - APARTMENT AND CONDOMINIUM CONTENTS COVERAGE

CATEGORY 03 - OFFICE CONTENTS COVERAGE

CATEGORIES 04, 05, & 06 - MERCANTILE CONTENTS COVERAGE

An establishment in which the principal business is the retail or wholesale buying or selling of goods, wares and merchandise. Included are bars, grills and restaurants.

CATEGORY 04 - MERCANTILE CONTENTS COVERAGE (HIGH)

Occupancy classes 0511, 0520, 0550, 0562, 0566, 0567, 0581, 0702, 1180, 1185, 1190, 1200, 1211, 1212, 1213, 1251, 1300, 1400, 1751, or 1752

CATEGORY 05 - MERCANTILE CONTENTS COVERAGE (MEDIUM)

Occupancy classes not listed in Category 04 or Category 06

CATEGORY 06 - MERCANTILE CONTENTS COVERAGE (LOW)

Occupancy classes 0512, 0541, 0563, 0921, 0922, 0933, 0940, or 1230

CATEGORY 07 - MOTEL & HOTEL CONTENTS COVERAGE

Hotels, motels, motor inns, motor lodges, tourist courts and similar risks whose business is principally the providing of lodging accommodations for transients, including premises and operations necessary or incidental to such lodging accommodations.

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORIES 08 & 09 - INSTITUTIONAL CONTENTS COVERAGE

An establishment principally occupied by an educational, religious, sanitary, charitable or governmental organization. It does not include buildings containing manufacturing of any kind, or sale, storage, processing, or repair of clothing or furniture, or paper or rag storage, or sorting or supplying of food or lodging to itinerants.

CATEGORY 08 - INSTITUTIONAL CONTENTS COVERAGE (HIGH)

Occupancy classes 0701, 0702, 0851, 0921, 1051, or 1052

CATEGORY 09 - INSTITUTIONAL CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 08

CATEGORIES 10 & 11 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE

An establishment in which the principal activity is the manufacturing of goods and wares or processing of raw materials or finished goods.

CATEGORY 10 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE (HIGH)

Occupancy classes 1252, 1300, 1400, 1700, 2000, 2059, 2150, 2200, 2250, 2300, 2350, 2400, 2459, 2550, 2600, 2750, 2800, 2805, 3009, 3409, 3809, 3959, or 4400

CATEGORY 11 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 10

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORIES 12 & 13 - SERVICE CONTENTS COVERAGE

An establishment in which the principal operation is the providing of a personal or commercial service. Included are establishments providing entertainment or recreation; warehousing of property of others; and automobile risks, such as service, repair or garaging of automobiles and parking lots.

CATEGORY 12 - SERVICE CONTENTS COVERAGE (HIGH)

Occupancy classes 0520, 0542, 0545, 0550, 0567, 0702, 0755, 0831, 0832, 0911, 0912, 0913, 0921, 0931, 0932, 0934, 1213, or 4809

CATEGORY 13 - SERVICE CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 12

CATEGORY 14 - CONTRACTOR CONTENTS COVERAGE

An establishment in which the principal operation is that of installation, construction, demolition or maintenance. This includes any owner/contractor, general contractor or sub-contractor whether or not he or she actually performs any part of such work or has employees on the site.

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TABLE 38

BASIC GROUP I

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2014	23,289,221	20,467,514	0.879
2015	24,280,608	20,492,424	0.844
2016	24,471,542	15,273,276	0.624
2017	24,304,438	65,856,317	2.710
2018	23,798,776	18,759,108	0.788

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TABLE 39

BASIC GROUP II

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2009	12,734,509	18,657,687	1.465
2010	13,118,044	12,150,419	0.926
2011	12,759,560	110,615,465	8.669
2012	12,675,473	50,599,634	3.992
2013	13,666,198	14,463,447	1.058
2014	14,857,756	8,752,260	0.589
2015	16,713,877	8,366,143	0.501
2016	17,851,041	6,132,786	0.344
2017	19,260,099	52,048,581	2.702
2018	20,800,208	10,380,153	0.499

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TABLE 40

SPECIAL CAUSES OF LOSS

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2014	9,307,004	17,928,481	1.926
2015	10,231,788	27,142,438	2.653
2016	11,024,624	8,125,312	0.737
2017	11,566,095	10,943,857	0.946
2018	11,934,156	12,984,942	1.088

OVERVIEW

LOSS ADJUSTMENT EXPENSE FACTORS

OBJECTIVE	The reported indemnity losses must be loaded for any loss adjustment expenses (LAE) that are not reported in statistical detail to ISO.
PROPERTY COVERAGES	For the property coverages, only the incurred indemnity losses are reported to ISO under the Commercial Statistical Plan. All loss adjustment expenses must be loaded in. A factor representing the ratio of incurred losses plus all LAE to incurred losses was selected based on multistate financial data (see Table 41 for the underlying data).
EXPERIENCE INCLUDED	Fire and Allied Lines incurred loss and loss adjustment expense experience for 2013-2017 is displayed on Table 41. The experience is based on Insurance Expense Exhibit information compiled by A.M. Best. For Allied Lines, the loss adjustment expense ratios [Table 41, line (3)(b)] for a few years are distorted by unusual catastrophe-related losses and loss adjustment expenses. The selected Allied Lines loss adjustment expense factor used for this review was selected after consideration of this distortion and based on a review of average loss adjustment expense ratios over a longer time period.
SELECTED FACTORS	The following factors have been used in this review to load incurred losses for all loss adjustment expenses:

Basic Group I	1.100
Basic Group II	1.125
Special Causes of Loss	1.125

TABLE 41
FIRE AND ALLIED LINES INSURANCE
COUNTRYWIDE LOSS ADJUSTMENT EXPENSE EXPERIENCE (A)

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>Selected</u>
(1) Fire						
(a) Direct Losses Incurred	4,684,461	5,449,566	5,303,941	5,626,602	7,720,282	
(b) Direct Loss Adjustment Expense Incurred	466,590	540,067	520,392	540,922	688,647	
(2) Allied Lines						
(a) Direct Losses Incurred	4,800,449	4,486,897	4,725,289	6,319,875	17,490,979	
(b) Direct Loss Adjustment Expense Incurred	700,795	617,569	650,048	707,895	1,112,736	
(3) Loss Adjustment Expense as a Ratio to Losses						
(a) Fire (1b) / (1a)	10.0%	9.9%	9.8%	9.6%	8.9%	10.0%
(b) Allied Lines (2b) / (2a)	14.6%	13.8%	13.8%	11.2%	6.4%	12.5%

NOTE: All dollar amounts are displayed in thousands.

(A) Items (1) and (2) are based on Insurance Expense Exhibit information compiled by A. M. Best.

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SECTION E - REVISED LOSS COST PAGES

Basic Group II Loss Costs.....	E2
Special Causes of Loss Loss Costs.....	E3
Basic Group I Loss Costs.....	E4-14

70. CAUSES OF LOSS – BASIC FORM

E. Rating Procedure**2. Property Damage – Group II Causes Of Loss****e. Loss Costs**

- (1) Determine the Basic Group II symbol from the specific publication or from Rule **70.E.2.a**.
- (2) For Symbols **AA**, **A**, **AB** and **B** use the applicable rate.
- (3) For symbols with numerical prefixes, multiply the applicable rate by the prefix shown in Rule **70.E.2.a**.

	Building	Contents
Symbol	Loss Cost	Loss Cost
AA	<u>.076-069</u>	<u>.102-093</u>
A	<u>.084-076</u>	<u>.112-102</u>
AB	<u>.108-098</u>	<u>.133-124</u>
B	<u>.128-116</u>	<u>.149-135</u>

72. CAUSES OF LOSS – SPECIAL FORM

E.2. Rating Procedure – Property Damage – Other Than Builders' Risk**b.(1)** Building Coverage – Loss Cost: ~~.053-.052~~**c.(2)** Personal Property Coverage – Loss Costs

Occupancy Category	Loss Cost
Residential Apartments and Condominiums	.143-.153
Offices	.160-.166
Mercantile – High	.221-.249
Mercantile – Medium	.261-.282
Mercantile – Low	.176-.187
Motels and Hotels	.123-.129
Institutional – High	.080-.085
Institutional – Low	.048-.056
Industrial and Processing – High	.185-.192
Industrial and Processing – Low	.147-.154
Service – High	.187-.190
Service – Low	.138-.144
Contractors	.374-.384
Territory	Territorial Multiplier
Davidson	0.999
Remainder of State	1.000

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85. BASIC GROUP I CLASS LOSS COSTS

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0074	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – Up to 10 Units					
0075	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – 11 to 30 Units					
0076	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – Over 30 Units					
0077	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – Up to 10 Units					
0078	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – 11 to 30 Units					
0079	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – Over 30 Units					
0196	1 Family Dwellings (Lessor's Risk)					
0197	2 Family Dwellings (Lessor's Risk)					
0198	3 or 4 Family Dwellings (Lessor's Risk)					
0311	Apartments without Mercantile Occupancies – Up to 10 Units					
0312	Apartments without Mercantile Occupancies – 11 to 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0074	Building (1)	0.180	0.165	0.145	0.117	0.108
	Contents (2)	0.182	0.165	0.156	0.136	0.128
0075	Building (1)	0.180	0.165	0.145	0.117	0.108
	Contents (2)	0.182	0.165	0.156	0.136	0.128
0076	Building (1)	0.180	0.165	0.145	0.117	0.108
	Contents (2)	0.182	0.165	0.156	0.136	0.128
0077	Building (1)	0.165	0.149	0.133	0.106	0.099
	Contents (2)	0.172	0.156	0.146	0.130	0.119
0078	Building (1)	0.165	0.149	0.133	0.106	0.099
	Contents (2)	0.172	0.156	0.146	0.130	0.119
0079	Building (1)	0.165	0.149	0.133	0.106	0.099
	Contents (2)	0.172	0.156	0.146	0.130	0.119
0196	Building (1)	0.112	0.100	0.088	0.073	0.068
	Contents (2)	0.123	0.112	0.105	0.093	0.085
0197	Building (1)	0.112	0.100	0.088	0.073	0.068
	Contents (2)	0.123	0.112	0.105	0.093	0.085
0198	Building (1)	0.112	0.100	0.088	0.073	0.068
	Contents (2)	0.123	0.112	0.105	0.093	0.085
0311	Building (1)	0.261	0.236	0.209	0.170	0.156
	Contents (2)	0.296	0.266	0.250	0.222	0.207
0312	Building (1)	0.261	0.236	0.209	0.170	0.156
	Contents (2)	0.296	0.266	0.250	0.222	0.207
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0313	Apartments without Mercantile Occupancies – Over 30 Units					
0321	Apartments with Mercantile Occupancies – Up to 10 Units					
0322	Apartments with Mercantile Occupancies – 11 to 30 Units					
0323	Apartments with Mercantile Occupancies – Over 30 Units					
0331	Residential Condominiums without Mercantile Occupancies – Up to 10 Units					
0332	Residential Condominiums without Mercantile Occupancies – 11 to 30 Units					
0333	Residential Condominiums without Mercantile Occupancies – Over 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0313	Building (1)	0.261	0.236	0.209	0.170	0.156
	Contents (2)	0.296	0.266	0.250	0.222	0.207
0321	Building (1)	0.404	0.364	0.322	0.261	0.241
	Contents (2)					
	A	0.599	0.539	0.511	0.449	0.417
0322	B&C	0.700	0.631	0.596	0.526	0.492
	Building (1)	0.404	0.364	0.322	0.261	0.241
	Contents (2)					
0323	A	0.599	0.539	0.511	0.449	0.417
	B&C	0.700	0.631	0.596	0.526	0.492
	Building (1)	0.404	0.364	0.322	0.261	0.241
0331	Contents (2)					
	A	0.599	0.539	0.511	0.449	0.417
	B&C	0.700	0.631	0.596	0.526	0.492
0332	Building (1)	0.146	0.132	0.117	0.093	0.089
	Contents (2)	0.128	0.115	0.108	0.097	0.089
0333	Building (1)	0.146	0.132	0.117	0.093	0.089
	Contents (2)	0.128	0.115	0.108	0.097	0.089
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0341	Residential Condominiums with Mercantile Occupancies – Up to 10 Units					
0342	Residential Condominiums with Mercantile Occupancies – 11 to 30 Units					
0343	Residential Condominiums with Mercantile Occupancies – Over 30 Units					
0511	Mercantile – Sole Occupancy Only – Not Otherwise Classified – Low Susceptibility					
0512	Mercantile – Sole Occupancy Only – Tire, Battery and Accessory Dealers without Tire Recapping and Vulcanizing					
0520	Mercantile – Sole Occupancy Only – Wearing Apparel, Textiles, Shoes					
0531	Mercantile – Sole Occupancy Only – Alcoholic Beverages other than Bars					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0341	Building (1)	0.228	0.204	0.183	0.150	0.135
	Contents (2)					
	A	0.258	0.233	0.222	0.192	0.181
	B&C	0.305	0.272	0.258	0.228	0.210
0342	Building (1)	0.228	0.204	0.183	0.150	0.135
	Contents (2)					
	A	0.258	0.233	0.222	0.192	0.181
	B&C	0.305	0.272	0.258	0.228	0.210
0343	Building (1)	0.228	0.204	0.183	0.150	0.135
	Contents (2)					
	A	0.258	0.233	0.222	0.192	0.181
	B&C	0.305	0.272	0.258	0.228	0.210
0511	Building (1)	0.106	0.096	0.085	0.068	0.065
	Contents (2)	0.154	0.138	0.131	0.116	0.108
0512	Building (1)	0.102	0.092	0.081	0.065	0.060
	Contents (2)	0.138	0.123	0.118	0.102	0.096
0520	Building (1)	0.125	0.114	0.102	0.082	0.076
	Contents (2)	0.201	0.180	0.171	0.151	0.140
0531	Building (1)	0.108	0.096	0.087	0.070	0.065
	Contents (2)	0.162	0.146	0.138	0.122	0.114
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0532	Merc – Sole Occy Only – Food Products Inc. Retail Bakeries; Non-Alcoholic Beverages (Sales Only – No Baking or Cooking)					
0533	Mercantile – Sole Occupancy Only – Baking on Premises, No Delivery to Outlets					
0534	Mercantile – Sole Occupancy Only – Food Products with Limited Cooking, Excluding Bakeries					
0541	Mercantile – Sole Occupancy Only – Bars and Taverns					
0545	Mercantile – Sole Occupancy Only – Restaurants with Limited Cooking					
0550	Mercantile – Sole Occupancy Only – Motor Vehicles, No Repair					
0561	Mercantile – Sole Occupancy Only – Boat and Marine Supply Dealers					
0562	Mercantile – Sole Occupancy Only – Drugs					
0563	Mercantile – Sole Occupancy Only – Electrical Goods, Hardware and Machinery					
0564	Mercantile – Sole Occupancy Only – Furniture and Home Furnishings other than Appliances					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0532	Building (1)	0.163	0.148	0.131	0.106	0.098
	Contents (2)	0.201	0.180	0.171	0.151	0.140
0533	Building (1)	0.127	0.116	0.103	0.083	0.079
	Contents (2)	0.161	0.145	0.136	0.121	0.112
0534	Building (1)	0.179	0.161	0.143	0.118	0.108
	Contents (2)	0.167	0.151	0.142	0.126	0.119
0541	Building (1)	0.357	0.323	0.287	0.233	0.216
	Contents (2)	0.385	0.345	0.327	0.287	0.269
0545	Building (1)	0.423	0.380	0.338	0.275	0.255
	Contents (2)	0.478	0.429	0.406	0.357	0.333
0550	Building (1)	0.096	0.088	0.079	0.064	0.058
	Contents (2)	0.166	0.151	0.141	0.124	0.118
0561	Building (1)	0.102	0.092	0.082	0.065	0.062
	Contents (2)	0.166	0.151	0.141	0.124	0.118
0562	Building (1)	0.116	0.104	0.094	0.076	0.070
	Contents (2)	0.184	0.166	0.156	0.138	0.128
0563	Building (1)	0.115	0.103	0.092	0.075	0.068
	Contents (2)	0.138	0.123	0.118	0.102	0.096
0564	Building (1)	0.157	0.142	0.125	0.103	0.095
	Contents (2)	0.241	0.218	0.206	0.180	0.169
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0565	Mercantile – Sole Occupancy Only – Jewelry					
0566	Mercantile – Sole Occupancy Only – Sporting Goods					
0567	Mercantile – Sole Occupancy Only – Not Otherwise Classified – Moderate Susceptibility					
0570	Mercantile – Sole Occupancy Only – Not Otherwise Classified – High Susceptibility					
0580	Greenhouses – Sole Occupancy Only					
0581	Mercantile – Multiple Occupancy without 0564 Occupant					
0582	Mercantile – Multiple Occupancy with 0564 Occupant					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0565	Building (1)	0.105	0.095	0.084	0.068	0.064
	Contents (2)	0.135	0.121	0.114	0.102	0.095
0566	Building (1)	0.119	0.108	0.096	0.079	0.072
	Contents (2)	0.180	0.164	0.154	0.136	0.127
0567	Building (1)	0.106	0.096	0.085	0.068	0.065
	Contents (2)	0.154	0.138	0.131	0.116	0.108
0570	Building (1)	0.106	0.096	0.085	0.068	0.065
	Contents (2)	0.162	0.146	0.138	0.122	0.114
0580	Building (1)	0.106	0.096	0.085	0.068	0.065
	Contents (2)	0.169	0.152	0.145	0.127	0.121
0581	Building (1)	0.113	0.102	0.090	0.073	0.068
	Contents (2)					
	A	0.162	0.146	0.138	0.122	0.114
	B	0.197	0.178	0.167	0.149	0.138
0582	Building (1)	0.124	0.111	0.100	0.082	0.075
	Contents (2)					
	A	0.145	0.131	0.123	0.108	0.102
	B	0.178	0.159	0.151	0.133	0.123
	C	0.161	0.145	0.136	0.121	0.112
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0701	Government Offices					
0702	Banks and Offices other than Governmental					
0742	Motels and Hotels with Limited Cooking Restaurant – Up to 10 Units					
0743	Motels and Hotels with Limited Cooking Restaurant – 11 to 30 Units					
0744	Motels and Hotels with Limited Cooking Restaurant – Over 30 Units					
0745	Motels and Hotels without Restaurant – Up to 10 Units					
0746	Motels and Hotels without Restaurant – 11 to 30 Units					
0747	Motels and Hotels without Restaurant – Over 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0701	Building (1)	0.070	0.063	0.056	0.044	0.041
	Contents (2)					
	A	0.077	0.068	0.064	0.057	0.054
	B	0.114	0.104	0.095	0.086	0.079
	C	0.088	0.079	0.075	0.065	0.062
0702	Building (1)	0.110	0.100	0.091	0.073	0.067
	Contents (2)					
	A	0.133	0.120	0.111	0.099	0.094
	B	0.184	0.166	0.157	0.137	0.129
	C	0.164	0.148	0.139	0.124	0.115
0742	Building (1)	0.914	0.823	0.733	0.597	0.553
	Contents (2)	1.010	0.908	0.857	0.756	0.707
0743	Building (1)	0.914	0.823	0.733	0.597	0.553
	Contents (2)	1.010	0.908	0.857	0.756	0.707
0744	Building (1)	0.914	0.823	0.733	0.597	0.553
	Contents (2)	1.010	0.908	0.857	0.756	0.707
0745	Building (1)	0.396	0.358	0.318	0.258	0.238
	Contents (2)	0.432	0.388	0.368	0.325	0.301
0746	Building (1)	0.396	0.358	0.318	0.258	0.238
	Contents (2)	0.432	0.388	0.368	0.325	0.301
0747	Building (1)	0.396	0.358	0.318	0.258	0.238
	Contents (2)	0.432	0.388	0.368	0.325	0.301
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0755	Golf, Tennis and Similar Sport Facilities with Limited Cooking					
0756	Golf, Tennis and Similar Sport Facilities without Cooking					
0757	Clubs, Not Otherwise Classified, Including Fraternal and Union Halls					
0831	Motion Picture Studios					
0832	Theaters Excluding Drive-in Theaters					
0833	Drive-in Theaters					
0834	Skating Rinks – Roller Rinks					
0841	Bowling Alleys without Cooking					
0843	Halls and Auditoriums					
0844	Recreational Facilities, Not Otherwise Classified					
0845	Boys' and Girls' Camps					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0755	Building (1)	0.329	0.295	0.264	0.215	0.199
	Contents (2)	0.379	0.341	0.323	0.284	0.265
0756	Building (1)	0.134	0.121	0.107	0.088	0.081
	Contents (2)	0.153	0.137	0.130	0.115	0.107
0757	Building (1)	0.144	0.130	0.115	0.095	0.088
	Contents (2)	0.153	0.137	0.130	0.115	0.107
0831	Building (1)	0.113	0.102	0.091	0.075	0.067
	Contents (2)	0.130	0.116	0.111	0.098	0.091
0832	Building (1)	0.143	0.129	0.115	0.095	0.087
	Contents (2)	0.153	0.137	0.130	0.115	0.107
0833	Building (1)	0.121	0.111	0.098	0.079	0.075
	Contents (2)	0.140	0.128	0.121	0.107	0.099
0834	Building (1)	0.195	0.175	0.157	0.128	0.118
	Contents (2)	0.199	0.178	0.169	0.150	0.139
0841	Building (1)	0.199	0.178	0.159	0.130	0.120
	Contents (2)	0.207	0.186	0.176	0.155	0.145
0843	Building (1)	0.099	0.091	0.079	0.065	0.058
	Contents (2)	0.106	0.096	0.091	0.079	0.075
0844	Building (1)	0.134	0.121	0.107	0.088	0.081
	Contents (2)	0.147	0.131	0.126	0.111	0.102
0845	Building (1)	0.090	0.079	0.071	0.057	0.052
	Contents (2)	0.102	0.091	0.088	0.077	0.071
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0846	Dance Halls, Ballrooms and Discotheques					
0851	Hospitals					
0852	Nursing and Convalescent Homes					
0900	Churches and Synagogues					
0911	Dry Cleaners and Dyeing Plants, other than Self-Service					
0912	Laundries, other than Self-Service					
0913	Self-Service Laundries and Dry Cleaners					
0921	Light Hazard Service Occupancies					
0922	Service Occupancies, other than Light Hazard					
0923	Funeral Homes					
0931	Auto Parking Garages, Car Washes					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0846	Building (1)	0.183	0.165	0.147	0.121	0.111
	Contents (2)	0.181	0.162	0.155	0.137	0.128
0851	Building (1)	0.035	0.031	0.026	0.021	0.020
	Contents (2)	0.040	0.038	0.035	0.029	0.028
0852	Building (1)	0.038	0.033	0.029	0.022	0.020
	Contents (2)	0.041	0.038	0.036	0.031	0.029
0900	Building (1)	0.100	0.089	0.080	0.065	0.060
	Contents (2)	0.106	0.095	0.089	0.079	0.075
0911	Building (1)	0.235	0.211	0.188	0.152	0.141
	Contents (2)	0.279	0.250	0.235	0.208	0.197
0912	Building (1)	0.310	0.281	0.249	0.202	0.186
	Contents (2)	0.383	0.345	0.326	0.287	0.268
0913	Building (1)	0.204	0.183	0.163	0.133	0.121
	Contents (2)	0.241	0.215	0.203	0.180	0.168
0921	Building (1)	0.121	0.110	0.098	0.079	0.072
	Contents (2)	0.145	0.130	0.123	0.109	0.103
0922	Building (1)	0.135	0.121	0.109	0.089	0.081
	Contents (2)	0.166	0.148	0.141	0.125	0.116
0923	Building (1)	0.091	0.081	0.072	0.058	0.055
	Contents (2)	0.097	0.089	0.082	0.072	0.067
0931	Building (1)	0.103	0.091	0.081	0.067	0.060
	Contents (2)	0.118	0.106	0.103	0.089	0.083
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0932	Gasoline Service Stations					
0933	Motor Vehicle and Aircraft Repair, with or without Sales					
0934	Tire Recapping and Vulcanizing, with or without Sales					
0940	Aircraft Hangars without Repair					
0951	Gambling Casinos with Limited Cooking Restaurants					
0952	Gambling Casinos without Restaurants					
1000	Penal Institutions					
1051	Museums, Libraries, Art Galleries (Non-Profit)					
1052	Schools, Academic					
1070	Fire Departments, Police, Sewage, Water Works and Other Public Buildings					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0932	Building (1)	0.144	0.131	0.115	0.094	0.087
	Contents (2)	0.177	0.158	0.148	0.132	0.121
0933	Building (1)	0.121	0.110	0.099	0.079	0.074
	Contents (2)	0.153	0.139	0.131	0.115	0.108
0934	Building (1)	0.158	0.143	0.127	0.105	0.096
	Contents (2)	0.189	0.170	0.159	0.141	0.132
0940	Building (1)	0.077	0.069	0.062	0.050	0.046
	Contents (2)	0.096	0.085	0.081	0.072	0.067
0951	Building (1)	0.383	0.344	0.306	0.250	0.231
	Contents (2)	0.423	0.382	0.361	0.319	0.296
0952	Building (1)	0.130	0.116	0.105	0.085	0.078
	Contents (2)	0.185	0.167	0.158	0.139	0.130
1000	Building (1)	0.066	0.060	0.054	0.043	0.041
	Contents (2)	0.059	0.053	0.050	0.044	0.041
1051	Building (1)	0.042	0.038	0.034	0.026	0.024
	Contents (2)	0.055	0.050	0.046	0.041	0.038
1052	Building (1)	0.101	0.090	0.080	0.065	0.060
	Contents (2)	0.115	0.102	0.096	0.087	0.080
1070	Building (1)	0.064	0.059	0.052	0.042	0.040
	Contents (2)	0.077	0.070	0.065	0.057	0.055
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
1150	Builders' Risk					
1180	Vacant Buildings – See CSP Class Code of previous or intended occupancy. Add loss cost of .015 unless Class Code of previous or intended occupancy is 0580, 0742-0747, 0833, 0834, 0841, 0843, 0844, 0846, 0900, 0951, 0952, 1051 or 1052.					
1211	Freight Terminals					
1212	General Storage Warehouses – Bailee					
1213	Miscellaneous Products Storage – (Other Than Retail Or Wholesale Or Cold Storage)					
1220	Household Goods Storage					
1230	Cold Storage Warehouses					
1400	Waste and Reclaimed Materials Including Yards					
1650	Building Supply Yards, Including Retail Lumberyards, Coal and Coke Yards					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
1150	Building (1)	0.108	0.096	0.086	0.070	0.066
1211	Building (1)	0.198	0.179	0.160	0.129	0.119
	Contents (2)	0.232	0.210	0.198	0.174	0.165
1212	Building (1)	0.159	0.142	0.126	0.103	0.096
	Contents (2)	0.193	0.173	0.165	0.146	0.135
1213	Building (1)	0.138	0.126	0.111	0.092	0.084
	Contents (2)	0.184	0.166	0.159	0.138	0.129
1220	Building (1)	0.166	0.151	0.133	0.108	0.101
	Contents (2)	0.200	0.182	0.172	0.153	0.142
1230	Building (1)	0.143	0.129	0.116	0.094	0.087
	Contents (2)	0.196	0.176	0.166	0.148	0.136
1400	Building (1)	0.429	0.387	0.344	0.278	0.256
	Contents (2)	0.521	0.470	0.444	0.392	0.364
	Yard	0.647		0.067		
1650	Building (1)	0.256	0.229	0.206	0.166	0.154
	Contents (2)	0.325	0.291	0.276	0.243	0.228
	Yard	0.179		0.023		
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

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85. BASIC GROUP I CLASS LOSS COSTS (Cont'd)

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
1700	Mill Yards					
1751	Oil Distributing, Oil Terminals and LPG Tank Farms – Including Stock					
1752	Oil Distributing, Oil Terminals and LPG Tank Farms – Excluding Stock					
2200	Baking on Premises, Delivery to Outlets					
2350	Beverage Bottlers Excluding Alcoholic Beverages					
2459	Distilleries and Wineries					
2800	Textile Mill Products					
3409	Leather and Leather Products					
4809	Printing					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
1700	Building (1)	0.209	0.186	0.167	0.136	0.126
	Contents (2)	0.319	0.285	0.270	0.238	0.223
	Yard	0.174		0.022		
1751	Building (1)	0.134	0.120	0.108	0.087	0.081
	Contents (2)	0.174	0.159	0.151	0.133	0.123
1752	Building (1)	0.126	0.114	0.102	0.083	0.075
	Contents (2)	0.126	0.112	0.107	0.094	0.087
2200	Building (1)	0.474	0.427	0.382	0.310	0.284
	Contents (2)	0.564	0.507	0.477	0.422	0.397
2350	Building (1)	0.304	0.273	0.245	0.198	0.183
	Contents (2)	0.361	0.325	0.304	0.269	0.254
2459	Building (1)	0.198	0.177	0.157	0.128	0.116
	Contents (2)	0.254	0.230	0.219	0.193	0.177
2800	Building (1)	1.078	0.974	0.872	0.705	0.655
	Contents (2)	1.424	1.282	1.205	1.065	1.000
3409	Building (1)	0.343	0.308	0.275	0.224	0.203
	Contents (2)	0.397	0.357	0.337	0.297	0.277
4809	Building (1)	0.261	0.236	0.211	0.170	0.157
	Contents (2)	0.321	0.288	0.272	0.240	0.226
Territory					Territorial Multiplier	
Memphis					1.301	
Nashville					0.933	
Balance of State (Tennessee)					1.000	

TENNESSEE
COMMERCIAL PROPERTY
LOSS COST LEVEL REVIEW
ACTUARIAL ANALYSIS SUPPLEMENT

PURPOSE This document provides discussion and analysis of changes in the experience and adjustments used to derive the advisory prospective loss cost level indications.

MONOLINE The indicated statewide monoline changes are:
INDICATIONS

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>
Basic Group I	-1.8%	+6.7%
Basic Group II	+10.2%	+12.9%
Special Causes of Loss	-1.1%	+7.2%
All Coverages Combined	+2.7%	+8.9%

The prior review's indications were filed and implemented. There has been a change in the Implicit Package Modification Factors since the prior review.

Given below is a brief discussion and comparison of the multistate factors (premium and loss trend, loss adjustment expense, and loss development) used in this year's and last year's reviews. The discussion is followed by a state specific analysis by subline and a list of events occurring during the experience period in this state that have been identified as catastrophes by ISO's Property Claims Services.

IMPACT OF
LIMIT OF
INSURANCE (LOI)
FACTOR
IMPLEMEN-
TATION

Instructions for companies that have not adopted the Limit of Insurance Curves or revised rating for Special Causes of Loss

Class-rated Loss Costs

The loss costs contained in this filing reflect the introduction of limit of insurance (LOI) curves and revised rating for Special Causes of Loss. For those companies which have not adopted those changes, the loss costs in effect immediately prior to the introduction of the LOI curves and revised SCL rating can be adjusted by applying the loss cost changes in Section A of this filing. These changes are changes from the current loss cost level; therefore, any other loss cost level changes effective subsequent to the introduction of LOI should also be applied. The loss cost changes based on this filing for Special Causes of Loss on an old category basis are given below. For Basic Group II, the loss cost changes by territory (not coverage and symbol) should be applied to the pre-LOI loss costs, since the loss cost changes by coverage and symbol reflect revised coverage and symbol relativities based on the introduction of the LOI curves.

Please note that the Basic Group I and Basic Group II loss costs in this filing reflect revised class, construction, and coverage (building and contents) relativities associated with the introduction of LOI curves in addition to the LOI curves themselves. Therefore, dividing the revised loss costs in this filing by the off-balance factors found in Section A of filing CF-2009-RLC09, Commercial Fire and Allied Lines Loss Cost Revision for the Introduction of Limit of Insurance Curves, will not result in the same loss costs as the procedure described above.

Schedule-rated Loss Costs

Section A of filing CF-2009-RLC09, Commercial Fire and Allied Lines Loss Cost Revision for the Introduction of Limit of Insurance Curves, displayed off-balance factors that are being applied to specifically-rated loss costs to reflect the introduction of LOI curves. Those off-balance factors can be divided out of the schedule-rated loss costs effective after the implementation of the LOI curves to bring them to a level appropriate for use without the application of LOI factors.

Special Causes of Loss (SCL) Indications on an Old Category Basis

Given below are the current SCL review indications on an old category basis for those companies that have not yet adopted the current SCL rating that was introduced in conjunction with the limit of insurance curves.

<u>Category</u>	<u>Loss Cost Change</u>
01 Buildings	+1.9%
02 Apartment and Condominium Contents	-6.8%
03 Office Contents	-3.8%
04 Mercantile, Motel-Hotel, and Institutional Contents	-8.3%
05 Service, Industrial-Processing and Contractors Contents	-3.9%
Personal Property (Contents) Excluding Theft	-5.9%

IMPACT OF
LIMIT OF
INSURANCE (LOI)
FACTOR
IMPLEMEN-
TATION (cont'd)

Limit of Insurance Transition Rule and Public Protection Class Factors

The transition rule, which caps rate changes for renewal policies due to the implementation of limit of insurance curves and revised rating, does not apply to rate changes produced by changes in protection class, deductible level, coinsurance level and/or optional coverages. Protection class factors for specifically-rated properties are included in the Basic Group I loss cost quote. In order to measure the impact of a change in protection class for specifically-rated properties, the public protection class factors are given below.

Protection Class	Non-Sprinklered <u>Schedule Rated</u>		<u>Sprinklered</u>
	Const. <u>1-3 *</u>	Const. <u>4-6 **</u>	All <u>Const.</u>
1	0.88	0.90	0.65
2	0.92	0.94	0.67
3	0.96	0.97	0.68
4	0.98	0.98	0.69
5	1.00	1.00	0.70
6	1.06	1.05	0.72
7	1.18	1.14	0.77
8	1.30	1.24	0.82
8B	1.35	1.28	0.84
9	1.42	1.34	0.88
10	1.72	1.58	1.00
1X - 5X	1.14	1.09	0.75
6X - 7X	1.35	1.28	0.84
8X	1.42	1.34	0.88
1Y - 5Y	1.14	1.09	0.75
6Y - 8Y	1.35	1.28	0.84
10W	1.63	1.51	0.97

* Frame, Joisted Masonry and Non-combustible

** Masonry Non-combustible, Modified Fire Resistive and Fire Resistive

Protection class factors for class-rated risks can be found in Rule **85.M** of the Commercial Lines manual.

DATA QUALITY

Statistical plan data reported to ISO is first processed through a system of rigorous automated data verification processes so that only valid data is used for ratemaking. Subsequent to this initial data submission review, additional analyses 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, corrected or adjusted. Specifically, an on-leveling approach was used to determine aggregate loss costs at current level rather than the extension-of-exposures method for some reported exposures, and various loss cost multipliers have been adjusted prior to their use in the calculations. The ISO staff responsible for this loss cost review also reviewed the data for reasonableness.

LOSS
ADJUSTMENT
EXPENSE/LOSS
DEVELOPMENT
FACTORS

Loss adjustment expense factors have remained the same at 1.100 for BG I and 1.125 for BG II and SCL. Loss development factors changed slightly but are still relatively close to unity for all sublines and years.

LOSS TREND
FACTORS

Given below is a comparison of the external trend factors, loss trend adjustments (LTAs) and total loss trend factors for the current and prior reviews.

External Trend

The prospective annual rates of change based on the external indices (Xactware for Buildings, PPI for Contents, and IMSEP/RSALLES for Time Element) for the current and prior year reviews are:

<u>Coverage</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Buildings	+3.0%	+2.5%	+0.5%
Contents	+1.9%	+1.2%	+0.7%
Time Element	+0.9%	-0.1%	+1.0%

Loss Trend Adjustments (LTAs)

The loss trend adjustment factors underlying the current and prior reviews are:

<u>Subline</u>	<u>Current Review</u>			<u>Prior Review</u>		
	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>
Basic Group I	-0.3%	+0.7%	+2.8%	-0.4%	+0.5%	+2.5%
Basic Group II	+0.2%	+0.6%	+2.6%	+0.5%	+0.8%	+2.2%
Special Causes of Loss	+0.2%	0.0%	+2.8%	+0.3%	+0.5%	+2.5%

Total Annual Loss Trend

The prospective total annual loss trend factors are given below and are calculated as the product of the external trend factors and loss trend adjustment factors.

<u>Subline</u>	<u>Current Review</u>			<u>Prior Review</u>		
	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>
Basic Group I	+2.7%	+2.6%	+3.7%	+2.1%	+1.7%	+2.4%
Basic Group II	+3.2%	+2.5%	+3.5%	+3.0%	+2.0%	+2.8%
Special Causes of Loss	+3.2%	+1.9%	+3.7%	+2.8%	+1.7%	+2.4%

CHANGE IN
AVERAGE LOSS
TREND

The changes in average loss trend from current year to prior year are:

<u>Subline</u>	<u>Change in Average Trend</u>
Basic Group I	+2.1%
Basic Group II	+0.2%
Special Causes of Loss	+0.5%

Average loss trend is calculated as a weighted average of the total loss trend from the midpoint of the experience year to one year past the assumed effective date for each year in the experience period based on the statewide loss cost level review year weights (.10, .15, .20, .25, .30 for BG I and SCL, and 0.10 for all years for BG II). Total loss trend includes the effect of Current Cost Factors to bring losses to the latest level of external cost information, Loss Projection Factors to project from the external cost level to one year past the assumed effective date, and Loss Trend Adjustment factors over the entire trend period.

PREMIUM TREND
FACTORS

The prospective annual premium trend factors, based on annual changes in amounts of insurance written, for the current and prior reviews are:

<u>Coverage</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Buildings	+2.6%	+2.0%	+0.6%
Contents	+1.6%	+1.7%	-0.1%
Time Element	+0.6%	+1.0%	-0.4%

NET TREND

The prospective annual net (loss ÷ premium) trend factors for the current and prior year reviews are:

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Basic Group I	+0.6%	+0.2%	+0.4%
Basic Group II	+0.8%	+0.8%	0.0%
Special Causes of Loss	+0.6%	+0.5%	+0.1%

BASIC GROUP I

The statewide five year weighted average experience ratio, before credibility weighting, decreased by 14.1%, from 1.222 in the prior review to 1.050 in the current review. The decrease is due to a lower-than-average experience ratio of 0.720 for 2018 entering the experience period and the implementation of last year's monoline increase of 6.7%. The monoline relativity decreased by 3.1%, due to a higher-than-overall monoline experience of 1.163 for 2013 exiting the experience period, and a lower-than-overall monoline experience of 0.767 for 2018 entering the experience period.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.050	1.222	0.859
Credibility	0.346	0.346	1.000
Expected Experience Ratio	1.009	1.002	1.007
Coverage Change	1.023	1.078	0.949
Monoline Relativity	0.959	0.990	0.969
Monoline Change	0.982	1.067	0.920

BASIC GROUP II

The statewide ten year weighted average experience ratio, before credibility weighting, decreased by 16.5%, from 1.264 in the prior review to 1.056 in the current review. The decrease is due to a higher-than-average experience ratio of 1.354 for 2008 exiting the experience period, a lower-than-average experience ratio of 0.736 for 2018 entering the experience period, and the implementation of last year's monoline increase of 12.9%. The monoline relativity increased by 7.2%, due to a lower-than-overall monoline experience of 0.580 for 2008 exiting the experience period, and a higher-than-overall monoline experience of 1.477 for 2018 entering the experience period.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.056	1.264	0.835
Credibility	0.499	0.50	0.998
Expected Experience Ratio	1.014	1.008	1.006
Coverage Change	1.035	1.136	0.911
Monoline Relativity	1.0649	0.9938	1.072
Monoline Change	1.102	1.129	0.976

SPECIAL CAUSES OF LOSS

The statewide five year weighted average experience ratio, before credibility weighting, decreased by 2.0%, from 0.996 in the prior review to 0.976 in the current review. The decrease is due to a lower-than-average experience ratio of 0.914 for 2018 entering the experience period and the implementation of last year's 7.2% monoline increase. It was partially offset by a 6.2% decrease in average Implicit Package Modification Factors (IPMFs). The monoline relativity decreased by 7.6% due to a decrease in the experience ratios from the previous year and a decrease in the average IPMFs since the last year's review.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.976	0.996	0.980
Credibility	0.346	0.356	0.972
Expected Experience Ratio	1.012	1.005	1.007
Coverage Change	1.000	1.002	0.998
Monoline Relativity	0.989	1.070	0.924
Monoline Change	0.989	1.072	0.923

PROPERTY CLAIMS SERVICES INFORMATION

The following events have been identified by Property Claims Services as catastrophes occurring in this state from 1/1/1990 through 12/31/2018.

<u>Date From</u>	<u>Date To</u>	<u>Perils</u>
8/28/90	8/30/90	Wind, Hail, Tornadoes, Flooding
12/18/90	12/25/90	Wind, Hail, Tornadoes, Flooding, Snow, Freezing
3/21/91	3/23/91	Wind, Hail, Tornadoes, Flooding
3/26/91	3/28/91	Wind, Hail, Tornadoes, Flooding
4/8/91	4/10/91	Wind, Hail, Tornadoes, Flooding
11/16/91	11/20/91	Wind, Hail, Tornadoes, Flooding
11/21/92	11/23/92	Wind, Hail, Tornadoes, Flooding
2/21/93	2/22/93	Wind, Hail, Tornadoes
3/11/93	3/14/93	Wind, Hail, Tornadoes, Freezing, Ice, Snow
1/14/94	1/16/94	Wind, Snow, Ice, Freezing
1/17/94	1/20/94	Wind, Snow, Ice, Freezing

2/10/94	2/12/94	Wind, Snow, Ice, Freezing, Flooding
3/26/94	3/27/94	Wind, Hail, Tornadoes, Flooding
6/9/94	6/10/94	Wind, Hail, Tornadoes, Flooding
6/24/94	6/27/94	Wind, Hail, Tornadoes, Flooding
3/6/95	3/7/95	Wind, Hail, Tornadoes, Flooding
5/13/95	5/15/95	Wind, Hail, Tornadoes, Flooding
5/16/95	5/19/95	Wind, Hail, Tornadoes, Flooding
10/4/95	10/5/95	Hurricane Opal - Wind, Tornadoes, Flooding
1/6/96	1/9/96	Wind, Snow, Ice, Freezing, Flooding
1/31/96	2/6/96	Wind, Snow, Ice, Tornadoes, Flooding
3/5/96	3/7/96	Wind, Hail, Tornadoes, Flooding
3/16/96	3/21/96	Wind, Hail, Tornadoes, Flooding
4/19/96	4/22/96	Wind, Hail, Tornadoes, Flooding
5/24/96	5/29/96	Wind, Hail, Tornadoes, Flooding
1/24/97	1/24/97	Wind, Hail, Tornadoes
2/20/97	2/22/97	Wind, Hail, Flooding
2/28/97	3/3/97	Wind, Hail, Tornadoes, Flooding
3/4/97	3/6/97	Wind, Hail, Tornadoes, Flooding
3/28/97	3/29/97	Wind, Hail, Tornadoes, Snow, Flooding
4/15/98	4/17/98	Hail, Wind, Flooding, Tornadoes
5/7/98	5/8/98	Hail, Wind, Flooding, Tornadoes
5/22/98	5/26/98	Hail, Wind, Flooding, Tornadoes
6/2/98	6/2/98	Hail, Wind, Flooding, Tornadoes
6/4/98	6/6/98	Hail, Wind, Flooding, Tornadoes
6/11/98	6/15/98	Hail, Wind, Flooding, Tornadoes
12/23/98	12/28/98	Ice, Wind, Freezing
1/1/99	1/4/99	Hail, Snow, Wind, Flooding, Freezing
1/17/99	1/18/99	Hail, Wind, Flooding, Tornadoes
4/2/99	4/4/99	Hail, Wind, Flooding, Tornadoes
5/3/99	5/7/99	Hail, Wind, Flooding, Tornadoes
6/10/99	6/14/99	Hail, Wind, Flooding, Tornadoes
7/28/99	7/29/99	Hail, Wind, Flooding
1/2/00	1/4/00	Hail, Wind, Flooding, Tornadoes
1/22/00	1/24/00	Ice, Hail, Wind, Freezing
5/25/00	5/26/00	Hail, Wind, Flooding, Tornadoes
9/20/00	9/21/00	Hail, Wind, Flooding, Tornadoes
12/16/00	12/17/00	Hail, Wind, Flooding, Tornadoes
2/24/01	2/25/01	Hail, Wind, Flooding, Tornadoes
10/23/01	10/24/01	Hail, Wind, Flooding, Tornadoes
4/27/02	5/3/02	Flooding, Hail, Tornadoes, Wind
11/9/02	11/10/02	Flooding, Hail, Tornadoes, Wind
1/13/03	1/25/03	Freezing, Ice, Snow, Wind
2/14/03	2/18/03	Flooding, Freezing, Ice, Snow, Wind
2/21/03	2/23/03	Flooding, Hail, Tornadoes, Wind
4/4/03	4/8/03	Flooding, Freezing, Hail, Ice, Snow, Tornadoes, Wind
4/24/03	4/27/03	Flooding, Hail, Tornadoes, Wind
5/1/03	5/1/03	Flooding, Hail, Tornadoes, Wind
5/2/03	5/11/03	Flooding, Hail, Tornadoes, Wind
7/21/03	7/23/03	Flooding, Hail, Tornadoes, Wind
11/16/03	11/19/03	Flooding, Hail, Tornadoes, Wind
5/29/04	6/2/04	Flooding, Hail, Tornadoes, Wind
7/12/04	7/14/04	Flooding, Hail, Tornadoes, Wind
9/15/04	9/21/04	Hurricane Ivan - Flooding, Tornadoes, Wind
2/20/05	2/22/05	Flooding, Hail, Wind

4/20/05	4/24/05	Flooding, Hail, Tornadoes, Wind
8/25/05	8/30/05	Hurricane Katrina - Flooding, Tornadoes, Wind
9/20/05	9/26/05	Hurricane Rita - Flooding, Tornadoes, Wind
3/8/06	3/10/06	Flooding, Hail, Tornadoes, Wind
4/2/06	4/3/06	Hail, Tornadoes, Wind
4/6/06	4/8/06	Hail, Tornadoes, Wind
7/19/06	7/21/06	Flooding, Hail, Tornadoes, Wind
9/22/06	9/23/06	Flooding, Hail, Tornadoes, Wind
11/30/06	12/3/06	Freezing, Hail, Ice, Snow, Tornadoes, Wind
1/29/2008	1/30/2008	Hail, Tornadoes, Wind
2/5/2008	2/6/2008	Flooding, Hail, Tornadoes, Wind
2/10/2009	2/13/2009	Flooding, Hail, Tornadoes, Wind
4/9/2009	4/11/2009	Flooding, Hail, Tornadoes, Wind
5/7/2009	5/9/2009	Flooding, Hail, Tornadoes, Wind
6/10/2009	6/18/2009	Flooding, Hail, Tornadoes, Wind
4/23/2010	4/25/2010	Hail, Tornadoes, Wind
4/30/2010	5/3/2010	Flooding, Hail, Tornadoes, Wind
2/24/2011	2/25/2011	Flooding, Hail, Tornadoes, Wind
2/27/2011	2/28/2011	Flooding, Hail, Tornadoes, Wind
4/3/2011	4/5/2011	Flooding, Hail, Tornadoes, Wind
4/8/2011	4/11/2011	Flooding, Hail, Tornadoes, Wind
4/19/2011	4/21/2011	Hail, Tornadoes, Wind
4/22/2011	4/28/2011	Flooding, Hail, Tornadoes, Wind
5/20/2011	5/27/2011	Flooding, Hail, Tornadoes, Wind
6/16/2011	6/22/2011	Flooding, Hail, Tornadoes, Wind
9/3/2011	9/9/2011	Flooding, Tornadoes, Wind
3/2/2012	3/3/2012	Flooding, Hail, Tornadoes, Wind
1/29/2013	1/31/2013	Flooding, Tornadoes, Wind
3/18/2013	3/19/2013	Hail, Tornadoes, Wind
1/5/2014	1/8/2014	Freezing, Ice, Snow, Wind
4/27/2014	5/1/2014	Flooding, Hail, Tornadoes, Wind
7/26/2014	7/28/2014	Flooding, Hail, Tornadoes, Wind
2/16/2015	2/17/2015	Freezing, Ice, Snow, Wind
2/16/2015	2/22/2015	Freezing, Ice, Snow, Wind
3/31/2015	4/1/2015	Flooding, Hail, Wind
4/7/2015	4/10/2015	Flooding, Hail, Tornadoes, Wind
4/18/2015	4/21/2015	Flooding, Hail, Tornadoes, Wind
7/12/2015	7/14/2015	Flooding, Hail, Tornadoes, Wind
12/23/2015	12/24/2015	Flooding, Hail, Tornadoes, Wind
1/22/2016	1/24/2016	Flooding, Freezing, Ice, Snow, Wind
3/5/2016	3/11/2016	Flooding, Hail, Tornadoes, Wind
5/7/2016	5/10/2016	Flooding, Hail, Tornadoes, Wind
7/5/2016	7/7/2016	Flooding, Hail, Tornadoes, Wind
7/7/2016	7/9/2016	Flooding, Hail, Wind
11/28/2016	11/30/2016	Fire
11/28/2016	12/1/2016	Flooding, Hail, Tornadoes, Wind
2/28/2017	3/2/2017	Flooding, Hail, Tornadoes, Wind
3/21/2017	3/22/2017	Flooding, Hail, Wind
3/26/2017	3/28/2017	Hail, Tornadoes, Wind
4/4/2017	4/6/2017	Flooding, Hail, Tornadoes, Wind
4/21/2017	4/25/2017	Flooding, Hail, Tornadoes, Wind
4/28/2017	5/1/2017	Flooding, Hail, Tornadoes, Wind
5/27/2017	5/28/2017	Flooding, Hail, Tornadoes, Wind
8/25/2017	9/1/2017	Flooding, Hail, Hurricane, Tornadoes, Tropical Storm, Wind

10/7/2017	10/9/2017	Flooding, Hurricane, Tornadoes, Tropical Storm, Wind
1/3/2018	1/6/2018	Flood, Freezing, Ice, Snow, Wind
2/24/2018	2/26/2018	Flooding, Hail, Tornadoes, Wind
6/28/2018	6/28/2018	Flooding, Tornadoes, Wind
7/19/2018	7/22/2018	Flooding, Hail, Tornadoes, Wind

PROPERTY
CLAIMS SERVICES
INFORMATION
(cont'd)

ISO's Property Claims Services defines a catastrophe as an event that:

- reaches a threshold dollar amount of total insured property losses, and
- affects a significant number of property and casualty insurance policyholders and property and casualty insurers.

From 1949 to 1981, the threshold was \$1 million. From 1982 to 1996, it was \$5 million, and since January 1, 1997, the threshold has been \$25 million.

All of the events listed above may not have resulted in unexpected loss experience for commercial property coverage in this state since catastrophes are defined based on total insured property losses spreading across state lines and lines of business.

For more information concerning Catastrophe Claims Services, please see "Persons to Contact" in the circular cover letter.
