

LOSS COSTS – IMPLEMENTATION

AUGUST 9, 2018

COMMERCIAL PROPERTY

LI-CF-2018-087

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 +8.9% to be implemented.

BACKGROUND

In circular [LI-CF-2018-076](#), we provided you with information about the Commercial Fire and Allied Lines loss cost level experience review.

ISO ACTION

We are implementing CF-2018-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 advisory prospective loss cost level indications.
- 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 January 1, 2019.

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 January 1, 2019, 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 1, 2019. 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-2018-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-2017-074](#) 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 1-19 (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 24, 2018. On January 1, 2019, 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 24, 2018 to January 1, 2019. On January 1, 2019, 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-2018-076](#) (06/13/2018) Commercial Fire And Allied Lines Experience Level Indications Reviewed By ISO Staff
- [LI-CL-2017-074](#) (11/20/2017) Revised Lead Time Requirements Listing

ATTACHMENT(S)

- CF-2018-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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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 +8.9% 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 06/30/2017, evaluated as of 09/30/2017.
 - removes the Rating ID dimension (class vs. specifically-rated) from the Basic Group I relativity analysis on Table 8 since it is not expected that loss cost indications should vary by rating method.
-

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	+6.7%
Basic Group II	+12.9%
Special Causes of Loss	+7.2%
Total	+8.9%

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

PRIOR ISO
REVISIONS

The latest revisions in this state are:

Reference Document or Filing	CF-2015-RLA1	CF-2013-RLA1
Rates/ Loss Costs	Loss Costs	Loss Costs
Dates Implemented	01/01/2016	04/01/2014
Changes		
Basic Group I	+1.4%	+0.6%
Basic Group II	+17.5%	+8.8%
Special Causes of Loss	+6.4%	+11.0%
Total	+7.3%	+5.2%

HISTORICAL
SOURCE DATA

The data used in this revision is:

- Voluntary experience for ISO reporting companies.
 - Five calendar/accident years ending 06/30/2017 for Basic Group I and Special Causes of Loss.
 - Ten calendar/accident years ending 06/30/2017 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 01/01/2019. 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 2016.

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	2.4%
Contents	1.1%
Time Element	-0.2%

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	-0.4%	0.5%	2.5%
Basic Group II	0.5%	0.8%	2.2%
Special Causes of Loss	0.3%	0.5%	2.5%

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	2.1%	1.7%	2.4%
Basic Group II	3.0%	2.0%	2.8%
Special Causes of Loss	2.8%	1.7%	2.4%

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	2.0%
Contents	1.7%
Time Element	1.9%

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. Nationwide Mutual Insurance Company
4. Hartford Accident & Indemnity Company
5. Westfield Insurance Company
6. Tokio Marine Companies
7. State Auto Mutual Insurance Company
8. Fireman's Fund Insurance Company
9. Zurich American Insurance Company
10. Liberty 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 12/31/2016 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 12/31/2016 is:

Commercial Multi-peril - Non-liability (ASLOB 51) - 38.4%

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/SELECTED	AGGREGATE LOSS COSTS AT CURRENT LEVEL
BASIC GROUP I	+6.7%	28,762,767
TERRITORY 01	+2.0%	
TERRITORY 02	+0.7%	
TERRITORY 08	+7.9%	
BASIC GROUP II	+12.9%	21,814,203
SPECIAL CAUSES OF LOSS	+7.2%	15,011,882
ALL COVERAGES COMBINED	+8.9%	65,588,852

TERRITORY DEFINITIONS

01 Memphis
02 Nashville FPSA
08 Balance of State

(A) FOR TREND PURPOSES, THE PERIOD OF USE FOR THIS REVISION IS ASSUMED TO BEGIN ON 01/01/2019.

TENNESSEE

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

RATING GROUP DESCRIPTION	Memphis	Nashville FPSA
	INDICATED	INDICATED
01 APARTMENTS	+7.3%	+5.5%
02 OTHER HABITATIONAL	+17.1%	+15.2%
03 RESTAURANTS & BARS	+6.3%	+4.5%
04 OTHER MERCANTILE RISKS	-8.0%	-9.5%
05 PUBLIC BUILDINGS	+5.0%	+3.3%
06 CHURCHES	+6.3%	+4.5%
07 SCHOOLS	+4.4%	+2.7%
08 OFFICES AND BANKS	+2.6%	+0.9%
09 RECREATIONAL FACILITIES	+6.0%	+4.3%
10 HOTELS & MOTELS	+6.7%	+4.9%
11 HOSPITALS & NURSING HOMES	+5.0%	+3.3%
12 BLDGS UNDER CONSTRUCTION	+3.9%	+2.2%
13 MOTOR VEHICLE RISKS	+3.7%	+2.0%
14 OTHER NON-MANUFACTURING	+3.9%	+2.2%
15 STORAGE	+8.0%	+6.2%
17 FOOD MANUFACTURING	+3.1%	+1.4%
18 WOOD MANUFACTURING	+1.1%	-0.6%
19 WEARING APPAREL	+2.6%	+0.9%
20 CHEMICAL MANUFACTURING	+4.0%	+2.3%
21 METAL MANUFACTURING	+2.3%	+0.5%
22 OTHER MANUFACTURING	+1.7%	+0.0%
TOTAL	+2.0%	+0.7%

(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	+12.7%
02 OTHER HABITATIONAL	+23.1%
03 RESTAURANTS & BARS	+11.7%
04 OTHER MERCANTILE RISKS	-3.3%
05 PUBLIC BUILDINGS	+10.4%
06 CHURCHES	+11.7%
07 SCHOOLS	+9.7%
08 OFFICES AND BANKS	+7.8%
09 RECREATIONAL FACILITIES	+11.5%
10 HOTELS & MOTELS	+12.1%
11 HOSPITALS & NURSING HOMES	+10.4%
12 BLDGS UNDER CONSTRUCTION	+9.2%
13 MOTOR VEHICLE RISKS	+9.0%
14 OTHER NON-MANUFACTURING	+9.2%
15 STORAGE	+13.5%
17 FOOD MANUFACTURING	+8.3%
18 WOOD MANUFACTURING	+6.3%
19 WEARING APPAREL	+7.8%
20 CHEMICAL MANUFACTURING	+9.3%
21 METAL MANUFACTURING	+7.5%
22 OTHER MANUFACTURING	+6.9%
TOTAL	+7.9%

(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	+11.4%
02 RES. APTS. AND CONDOS	-3.3%
03 OFFICES	-1.1%
04 MERCANTILE - HIGH	-0.7%
05 MERCANTILE - MEDIUM	-2.9%
06 MERCANTILE - LOW	+2.8%
07 MOTELS AND HOTELS	+2.0%
08 INSTITUTIONAL - HIGH	-5.3%
09 INSTITUTIONAL - LOW	-11.3%
10 INDUST-PROC - HIGH	+2.2%
11 INDUST-PROC - LOW	+2.8%
12 SERVICE - HIGH	+11.3%
13 SERVICE - LOW	+2.7%
14 CONTRACTORS	+12.0%
STATEWIDE TOTAL	+7.2%

**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	+11.7%	+12.9%	+9.4%
32	APARTMENT	+16.3%	+12.9%	+7.5%
33	OFFICE	+6.8%	+12.9%	+6.5%
34	MERCANTILE	+1.5%	+12.9%	+7.1%
35	INSTITUTIONAL	+9.7%	+12.9%	+4.2%
36	SERVICES	+7.4%	+12.9%	+9.9%
37	INDUST/PROCESSING	+5.6%	+12.9%	+7.9%
38	CONTRACTORS	+0.3%	+12.9%	+10.4%

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 LATEST YEAR MULTILINE TOP 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

SECTION B - CALCULATION OF PROPOSED CHANGES

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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
2013	31,868,134	30,708,907	0.964	0.10
2014	30,350,774	27,725,266	0.913	0.15
2015	30,511,738	25,250,536	0.828	0.20
2016	29,818,255	19,946,816	0.669	0.25
2017	28,762,767	62,867,764	2.186	0.30

(6) WEIGHTED EXPERIENCE RATIO	= 1.222
(7) CREDIBILITY	= 0.346
(8) EXPECTED EXPERIENCE RATIO	= 1.002
(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO (0.346 X 1.222) + (0.654 X 1.002)	= 1.078
(10) INDICATED COVERAGE LOSS COST CHANGE	= 1.078
	OR +7.8%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2019 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2020 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)
2008	22,236,354	30,098,385	1.354
2009	23,505,681	30,902,047	1.315
2010	24,890,370	23,825,228	0.957
2011	23,774,312	43,468,688	1.828
2012	23,340,906	35,976,486	1.541
2013	23,258,389	28,275,710	1.216
2014	22,641,831	16,866,460	0.745
2015	23,343,696	13,783,828	0.590
2016	22,899,123	11,069,367	0.483
2017	21,814,203	56,777,111	2.603

(5) WEIGHTED EXPERIENCE RATIO (EQUAL WEIGHTS) = 1.264

(6) CREDIBILITY = 0.500

(7) EXPECTED EXPERIENCE RATIO = 1.008

(8) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 1.136
(0.500 x 1.264) + (0.500 x 1.008)

(9) INDICATED COVERAGE LOSS COST CHANGE = 1.136

OR +13.6%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2019 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2020 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
2013	16,252,506	11,666,359	0.718	0.10
2014	15,813,854	18,321,428	1.159	0.15
2015	15,828,359	16,580,284	1.048	0.20
2016	15,535,040	12,865,832	0.828	0.25
2017	15,011,882	16,653,676	1.109	0.30

(6) WEIGHTED EXPERIENCE RATIO = 0.996

(7) CREDIBILITY = 0.356

(8) EXPECTED EXPERIENCE RATIO = 1.005

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 1.002
(0.356 X 0.996) + (0.644 X 1.005)

(10) INDICATED COVERAGE LOSS COST CHANGE = 1.002

OR +0.2%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 07/01/2019 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 01/01/2020 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 1.078 OR +7.8%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
10	0.868	0.131	0.982	0.990	
31	2.082	0.060	1.045	1.054	
32	1.184	0.121	1.021	1.029	
33	0.942	0.064	0.996	1.005	
34	0.963	0.271	0.990	0.998	
35	0.978	0.192	0.996	1.004	
36	0.761	0.183	0.951	0.959	
37	0.962	0.171	0.993	1.002	
38	0.964	0.048	0.998	1.007	

RATING GROUP					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.151	0.171	1.024	1.046	+11.3
02	2.090	0.152	1.119	1.142	+22.0
03	1.082	0.184	1.015	1.036	+10.3
04	0.751	0.453	0.878	0.897	-4.4
05	1.101	0.028	1.003	1.024	+10.2
06	1.052	0.288	1.015	1.036	+10.6
07	0.961	0.082	0.997	1.018	+8.5
08	0.933	0.305	0.979	1.000	+6.7
09	1.089	0.148	1.013	1.034	+10.3
10	1.135	0.148	1.019	1.040	+11.7
11	1.126	0.027	1.003	1.024	+9.0
13	0.944	0.165	0.991	1.011	+7.9
14	0.946	0.142	0.992	1.013	+8.1
15	1.282	0.123	1.031	1.053	+12.6
17	0.662	0.039	0.984	1.005	+7.5
18	0.642	0.079	0.966	0.986	+5.5
19	0.644	0.046	0.980	1.000	+7.0
20	0.700	0.019	0.993	1.014	+7.5
21	0.848	0.146	0.976	0.997	+6.6
22	0.786	0.121	0.971	0.992	+6.3

STATEWIDE MONOLINE LOSS COST LEVEL CHANGE +6.7%

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	0.871	0.187	0.975	0.961
Nashville FPSA	0.802	0.196	0.958	0.945
Balance of State (Tennessee)	1.034	0.695	1.024	1.010

	(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE

Memphis	+2.0
Nashville FPSA	+0.7
Balance of State (Tennessee)	+7.9

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	=	+7.8%
TERRITORIAL RELATIVITY	=	0.961
MONOLINE (TOP 10) RELATIVITY	=	0.990
RATING GROUP 01 RELATIVITY	=	1.046

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR RATING GROUP 01

$$= 1.078 \quad \times \quad 0.961 \quad \times \quad 0.990 \quad \times \quad 1.046 \quad = 1.073$$

OR +7.3%

TENNESSEE

TABLE 8 - CALCULATION OF INDICATED TERRITORIAL MULTIPLIERS

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

Memphis	0.961	1.000	1.405
Nashville FPSA	0.945	1.000	1.127
Balance of State (Tennessee)	1.010	1.000	1.000

(5)
INDICATED TERRITORIAL MULTIPLIER
((2)X(3)X(4) / (1.010 X 1.000))

Memphis
1.337
Nashville FPSA
1.054
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 1.002 OR +0.2%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
<hr/>					
10	1.546	0.168	1.076	1.070	
31	0.919	0.071	0.994	0.989	
32	0.640	0.128	0.944	0.939	
33	0.656	0.128	0.947	0.942	
34	1.096	0.279	1.026	1.020	
35	1.105	0.299	1.030	1.025	
36	1.078	0.225	1.017	1.012	
37	0.752	0.158	0.956	0.951	
38	0.507	0.089	0.941	0.936	
<hr/>					
CATEGORY					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.094	0.770	1.072	1.039	+11.4
02	0.418	0.083	0.930	0.902	-3.3
03	0.744	0.169	0.951	0.922	-1.1
04	0.767	0.174	0.955	0.926	-0.7
05	0.629	0.147	0.934	0.906	-2.9
06	0.858	0.072	0.989	0.959	+2.8
07	0.659	0.046	0.981	0.951	+2.0
08	0.509	0.138	0.911	0.883	-5.3
09	0.463	0.207	0.853	0.827	-11.3
10	0.661	0.042	0.983	0.953	+2.2
11	0.929	0.157	0.989	0.959	+2.8
12	1.522	0.163	1.071	1.038	+11.3
13	0.874	0.088	0.988	0.958	+2.7
14	1.864	0.120	1.078	1.045	+12.0
<hr/>					
OVERALL MONOLINE LOSS COST LEVEL CHANGE					+7.2%
<hr/>					

TENNESSEE

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

EXAMPLE OF A LOSS COST CHANGE CALCULATION

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	+0.2%
MONOLINE (TOP 10) RELATIVITY	=	1.070
CATEGORY 01 RELATIVITY	=	1.039

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR CATEGORY 01

= 1.002	X	1.070	X	1.039	=	1.114
					OR	+11.4%

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 06/30/17 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	1,239	8,432	0.000	0.525	0.481
	02 OTHER HABITATIONAL	1,802	11,571	0.000	0.524	0.480
	03 RESTAURANTS & BARS	16,376	67,884	0.948	0.685	0.627
	04 OTHER MERCANTILE RS	68,733	350,772	0.687	0.643	0.589
	05 PUBLIC BUILDINGS	915	1,745	0.000	0.527	0.483
	06 CHURCHES	10,611	62,090	1.789	0.836	0.766
	07 SCHOOLS	12,222	128,710	1.449	0.794	0.727
	08 OFFICES AND BANKS	55,207	224,547	1.042	0.724	0.663
	09 REC. FACILITIES	8,555	59,656	0.153	0.541	0.495
	10 HOTELS AND MOTELS	0	1,334	0.000	0.527	0.483
	11 HOSPITALS/NURS HOME	8,882	50,886	0.000	0.515	0.472
	13 MOTOR VEHICLE RISKS	13,135	74,357	0.397	0.584	0.535
	14 OTHER NON-MANUF.	15,059	70,560	0.000	0.511	0.468
	15 STORAGE	29,319	149,222	0.050	0.504	0.462
	17 FOOD MANUFACTURING	394	1,353	0.000	0.527	0.483
	18 WOOD MANUFACTURING	1,208	8,209	0.000	0.525	0.481
	20 CHEM. MANUFACTURING	3,422	41,239	0.000	0.517	0.473
	21 METAL MANUFACTURING	11,537	84,694	0.000	0.508	0.465
	22 OTHER MANUFACTURING	1,172	13,801	0.000	0.524	0.480
	TOTAL*	259,788	1,411,062	0.635	0.633	0.580
31 MULTILINE	10 HOTELS AND MOTELS	39,387	278,785	0.066	0.580	0.531
MOTEL/HOTEL	TOTAL*	39,387	278,785	0.066	0.580	0.531
32 MULTILINE	01 APARTMENTS	71,329	500,170	1.136	1.128	1.033
APARTMENT	02 OTHER HABITATIONAL	91,580	499,515	2.183	1.790	1.639
	TOTAL*	162,909	999,685	1.725	1.500	1.374
33 MULTILINE	08 OFFICES AND BANKS	48,748	366,102	5.340	3.510	3.214
OFFICE	TOTAL*	48,748	366,102	5.340	3.510	3.214
34 MULTILINE	03 RESTAURANTS & BARS	112,364	717,609	1.278	1.230	1.126
MERCANTILE	04 OTHER MERCANTILE RS	338,422	2,149,016	0.418	0.508	0.465
	08 OFFICES AND BANKS	9,592	57,659	1.747	1.283	1.175
	13 MOTOR VEHICLE RISKS	23,103	70,372	0.203	0.853	0.781
	14 OTHER NON-MANUF.	6,545	36,449	2.775	1.497	1.371
	15 STORAGE	29,900	164,671	0.109	0.704	0.645
	TOTAL*	519,926	3,195,776	0.631	0.717	0.657

Memphis

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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 06/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	3,020	10,219	0.000	0.915	0.838
	05 PUBLIC BUILDINGS	2,074	10,579	0.000	0.914	0.837
	06 CHURCHES	289,132	1,646,455	0.761	0.818	0.749
	07 SCHOOLS	60,852	274,461	2.299	1.715	1.571
	08 OFFICES AND BANKS	57,845	333,621	0.986	1.044	0.956
	09 REC. FACILITIES	27,624	136,355	1.954	1.431	1.310
	11 HOSPITALS/NURS HOME	14,008	67,294	0.636	0.980	0.897
	13 MOTOR VEHICLE RISKS	201	1,125	0.000	0.936	0.857
	14 OTHER NON-MANUF.	5,925	39,383	0.000	0.852	0.780
	TOTAL*	460,681	2,519,492	1.042	1.008	0.923
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	11,413	68,086	0.000	1.339	1.226
	04 OTHER MERCANTILE RS	59,966	266,900	0.405	1.391	1.274
	08 OFFICES AND BANKS	46,751	304,673	0.782	1.441	1.320
	09 REC. FACILITIES	42,740	279,985	0.074	1.348	1.234
	13 MOTOR VEHICLE RISKS	113,356	605,703	2.176	1.623	1.486
	14 OTHER NON-MANUF.	34,389	193,775	0.000	1.339	1.226
	15 STORAGE	26,712	167,567	8.143	2.401	2.199
	21 METAL MANUFACTURING	7,157	10,021	201.422	27.611	25.285
	22 OTHER MANUFACTURING	2,497	33,639	0.741	1.435	1.314
	TOTAL*	344,981	1,930,349	5.715	2.084	1.909
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	30,502	150,331	0.000	1.339	1.226
	08 OFFICES AND BANKS	3,704	17,825	0.000	1.339	1.226
	13 MOTOR VEHICLE RISKS	0	2,037	5.419	2.045	1.873
	14 OTHER NON-MANUF.	3,454	8,811	0.000	1.339	1.226
	15 STORAGE	9,953	47,333	0.000	1.339	1.226
	17 FOOD MANUFACTURING	5,510	102,389	0.104	1.352	1.238
	18 WOOD MANUFACTURING	12,315	106,378	0.000	1.339	1.226
	19 WEARING APPAREL	2,225	31,597	0.006	1.339	1.226
	20 CHEM. MANUFACTURING	15,499	62,949	0.000	1.339	1.226
	21 METAL MANUFACTURING	87,622	659,138	1.144	1.488	1.363
	22 OTHER MANUFACTURING	32,212	174,275	0.000	1.339	1.226
	TOTAL*	202,996	1,363,063	0.497	1.403	1.285

Memphis

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/17 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	65,310	419,239	0.214	1.366	1.251
CONTRACTORS	08 OFFICES AND BANKS	23,458	147,406	0.097	1.351	1.237
	14 OTHER NON-MANUF.	4,397	19,621	0.000	1.339	1.226
	TOTAL*	93,165	586,266	0.174	1.361	1.246
TOTAL ALL TOPS*	01 APARTMENTS	72,568	508,602	1.117	1.118	1.024
	02 OTHER HABITATIONAL	96,402	521,305	2.074	1.739	1.592
	03 RESTAURANTS & BARS	140,153	853,579	1.135	1.175	1.076
	04 OTHER MERCANTILE RS	562,933	3,336,258	0.403	0.763	0.699
	05 PUBLIC BUILDINGS	2,989	12,324	0.000	0.795	0.729
	06 CHURCHES	299,743	1,708,545	0.797	0.818	0.750
	07 SCHOOLS	73,074	403,171	2.157	1.561	1.429
	08 OFFICES AND BANKS	245,305	1,451,833	1.755	1.581	1.448
	09 REC. FACILITIES	78,919	475,996	0.741	1.290	1.181
	10 HOTELS AND MOTELS	39,387	280,119	0.066	0.580	0.531
	11 HOSPITALS/NURS HOME	22,890	118,180	0.389	0.799	0.732
	13 MOTOR VEHICLE RISKS	149,795	753,594	1.713	1.412	1.293
	14 OTHER NON-MANUF.	69,769	368,599	0.260	1.133	1.038
	15 STORAGE	95,884	528,793	2.318	1.181	1.082
	17 FOOD MANUFACTURING	5,904	103,742	0.097	1.297	1.188
	18 WOOD MANUFACTURING	13,523	114,587	0.000	1.266	1.160
	19 WEARING APPAREL	2,225	31,597	0.006	1.339	1.226
	20 CHEM. MANUFACTURING	18,921	104,188	0.000	1.190	1.090
	21 METAL MANUFACTURING	106,316	753,853	14.502	3.140	2.876
	22 OTHER MANUFACTURING	35,881	221,715	0.052	1.319	1.208
	TOTAL*	2,132,581	12,650,580	1.691	1.205	1.104

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

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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 06/30/17 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	12,191	270,333	0.083	0.847	0.776
	02 OTHER HABITATIONAL	31,084	123,191	0.000	0.839	0.768
	03 RESTAURANTS & BARS	61,631	242,846	0.003	0.835	0.765
	04 OTHER MERCANTILE RS	97,640	387,226	2.559	1.245	1.140
	05 PUBLIC BUILDINGS	0	1,755	0.000	0.842	0.771
	06 CHURCHES	8,022	52,806	0.097	0.855	0.783
	07 SCHOOLS	5,100	21,590	0.000	0.842	0.771
	08 OFFICES AND BANKS	43,749	186,242	0.023	0.840	0.769
	09 REC. FACILITIES	18,767	76,533	0.110	0.857	0.785
	10 HOTELS AND MOTELS	16,237	40,797	0.000	0.841	0.770
	11 HOSPITALS/NURS HOME	607	5,975	0.000	0.842	0.771
	13 MOTOR VEHICLE RISKS	12,524	68,518	0.000	0.840	0.769
	14 OTHER NON-MANUF.	20,152	83,674	8.746	2.174	1.991
	15 STORAGE	16,151	73,784	0.038	0.846	0.775
	17 FOOD MANUFACTURING	11,627	36,519	0.000	0.841	0.770
	18 WOOD MANUFACTURING	7,377	27,880	0.000	0.842	0.771
	19 WEARING APPAREL	8,078	22,963	0.000	0.842	0.771
	20 CHEM. MANUFACTURING	18,359	26,335	0.000	0.842	0.771
	21 METAL MANUFACTURING	3,067	17,890	0.000	0.842	0.771
	22 OTHER MANUFACTURING	2,969	15,695	0.000	0.842	0.771
	TOTAL*	395,332	1,782,552	1.092	1.009	0.924
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	36,319	193,341	0.000	0.646	0.592
	TOTAL*	36,319	193,341	0.000	0.646	0.592
32 MULTILINE APARTMENT	01 APARTMENTS	270,975	1,213,821	0.505	0.640	0.586
	02 OTHER HABITATIONAL	108,950	507,569	1.234	1.179	1.080
	TOTAL*	379,925	1,721,390	0.714	0.794	0.728
33 MULTILINE OFFICE	08 OFFICES AND BANKS	177,720	787,634	0.431	0.635	0.582
	TOTAL*	177,720	787,634	0.431	0.635	0.582
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	150,095	687,253	2.083	1.753	1.605
	04 OTHER MERCANTILE RS	427,567	2,076,851	0.225	0.356	0.326
	08 OFFICES AND BANKS	20,880	121,245	0.000	0.727	0.666
	13 MOTOR VEHICLE RISKS	21,192	112,150	0.000	0.739	0.677
	14 OTHER NON-MANUF.	17,867	99,551	0.039	0.768	0.703
	15 STORAGE	27,839	144,115	0.000	0.699	0.640
	TOTAL*	665,440	3,241,165	0.615	0.720	0.660

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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 06/30/17 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	507	15,650	0.000	0.892	0.817
INSTITUTIONAL	05 PUBLIC BUILDINGS	4,487	20,720	0.000	0.882	0.808
	06 CHURCHES	179,984	1,054,167	4.828	3.885	3.558
	07 SCHOOLS	49,710	251,189	0.099	0.638	0.584
	08 OFFICES AND BANKS	67,303	344,723	0.014	0.531	0.486
	09 REC. FACILITIES	37,554	112,865	0.000	0.738	0.676
	11 HOSPITALS/NURS HOME	24,091	74,242	0.199	0.847	0.776
	13 MOTOR VEHICLE RISKS	208	2,362	0.000	0.918	0.841
	14 OTHER NON-MANUF.	8,646	47,217	0.066	0.851	0.779
	TOTAL*	372,490	1,923,135	2.363	2.220	2.033
36 MULTILINE	03 RESTAURANTS & BARS	12,263	39,869	0.000	0.205	0.188
SERVICES	04 OTHER MERCANTILE RS	35,408	147,941	0.000	0.202	0.185
	08 OFFICES AND BANKS	54,720	245,106	0.000	0.199	0.182
	09 REC. FACILITIES	82,063	653,870	0.049	0.198	0.181
	13 MOTOR VEHICLE RISKS	61,870	337,946	0.092	0.213	0.195
	14 OTHER NON-MANUF.	89,555	374,163	0.321	0.254	0.233
	15 STORAGE	17,593	87,824	0.000	0.204	0.187
	21 METAL MANUFACTURING	3,619	20,137	0.061	0.214	0.196
	22 OTHER MANUFACTURING	18,376	128,752	0.739	0.316	0.289
	TOTAL*	375,467	2,035,608	0.139	0.221	0.202
37 MULTILINE	04 OTHER MERCANTILE RS	13,356	64,418	0.000	0.205	0.188
INDUST/PROCESS	08 OFFICES AND BANKS	2,998	31,345	3.932	0.759	0.695
	14 OTHER NON-MANUF.	9,504	59,528	0.000	0.205	0.188
	15 STORAGE	0	2,103	0.000	0.207	0.190
	17 FOOD MANUFACTURING	21,968	70,440	5.539	1.013	0.928
	18 WOOD MANUFACTURING	54,128	318,550	0.007	0.198	0.181
	19 WEARING APPAREL	29,220	164,627	0.000	0.201	0.184
	20 CHEM. MANUFACTURING	1,548	5,586	0.000	0.206	0.189
	21 METAL MANUFACTURING	66,898	292,833	0.204	0.233	0.213
	22 OTHER MANUFACTURING	44,003	174,673	0.000	0.201	0.184
	TOTAL*	243,623	1,184,103	0.605	0.290	0.265

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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	56,497	322,075	0.080	0.211	0.193
	08 OFFICES AND BANKS	19,702	116,115	0.073	0.214	0.196
	14 OTHER NON-MANUF.	16,743	59,144	0.000	0.205	0.188
	TOTAL*	92,942	497,334	0.064	0.210	0.193
TOTAL ALL TOPS*	01 APARTMENTS	283,166	1,484,154	0.487	0.649	0.594
	02 OTHER HABITATIONAL	140,541	646,410	0.957	1.103	1.010
	03 RESTAURANTS & BARS	223,989	969,968	1.397	1.416	1.296
	04 OTHER MERCANTILE RS	630,468	2,998,511	0.556	0.469	0.429
	05 PUBLIC BUILDINGS	4,487	22,475	0.000	0.882	0.808
	06 CHURCHES	188,006	1,106,973	4.626	3.756	3.439
	07 SCHOOLS	54,810	272,779	0.090	0.657	0.602
	08 OFFICES AND BANKS	387,072	1,832,410	0.237	0.563	0.516
	09 REC. FACILITIES	138,384	843,268	0.044	0.434	0.397
	10 HOTELS AND MOTELS	52,556	234,138	0.000	0.706	0.647
	11 HOSPITALS/NURS HOME	24,698	80,217	0.194	0.847	0.776
	13 MOTOR VEHICLE RISKS	95,794	520,976	0.059	0.413	0.378
	14 OTHER NON-MANUF.	162,467	723,277	1.270	0.573	0.524
	15 STORAGE	61,583	307,826	0.010	0.596	0.546
	17 FOOD MANUFACTURING	33,595	106,959	3.622	0.953	0.873
	18 WOOD MANUFACTURING	61,505	346,430	0.006	0.275	0.252
	19 WEARING APPAREL	37,298	187,590	0.000	0.340	0.311
	20 CHEM. MANUFACTURING	19,907	31,921	0.000	0.792	0.726
	21 METAL MANUFACTURING	73,584	330,860	0.188	0.258	0.236
	22 OTHER MANUFACTURING	65,348	319,120	0.208	0.263	0.240
	TOTAL*	2,739,258	13,366,262	0.831	0.846	0.774

* 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 06/30/17 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	75,796	496,505	0.736	0.827	0.757
	02 OTHER HABITATIONAL	151,671	620,103	2.415	2.004	1.835
	03 RESTAURANTS & BARS	77,700	343,768	0.222	0.545	0.499
	04 OTHER MERCANTILE RS	486,389	2,452,897	0.859	0.874	0.800
	05 PUBLIC BUILDINGS	50,968	272,161	0.396	0.678	0.621
	06 CHURCHES	49,910	239,903	15.906	8.627	7.900
	07 SCHOOLS	123,328	873,791	0.166	0.359	0.329
	08 OFFICES AND BANKS	307,394	1,399,301	0.435	0.526	0.482
	09 REC. FACILITIES	138,519	660,000	0.992	0.996	0.912
	10 HOTELS AND MOTELS	96,864	470,913	1.011	1.009	0.924
	11 HOSPITALS/NURS HOME	26,596	143,944	1.096	1.043	0.955
	13 MOTOR VEHICLE RISKS	160,634	930,520	0.791	0.838	0.767
	14 OTHER NON-MANUF.	183,054	872,237	0.851	0.887	0.812
	15 STORAGE	121,139	620,402	0.636	0.744	0.681
	17 FOOD MANUFACTURING	25,798	97,862	0.000	0.657	0.602
	18 WOOD MANUFACTURING	87,815	421,140	0.000	0.372	0.341
	19 WEARING APPAREL	2,619	33,890	0.000	0.774	0.709
	20 CHEM. MANUFACTURING	14,574	72,675	0.000	0.698	0.639
	21 METAL MANUFACTURING	105,404	634,442	0.113	0.370	0.339
	22 OTHER MANUFACTURING	34,148	254,840	0.093	0.527	0.483
	TOTAL*	2,320,320	11,911,294	1.062	0.980	0.898
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	1,235,216	5,951,441	3.622	2.528	2.315
	TOTAL*	1,235,216	5,951,441	3.622	2.528	2.315
32 MULTILINE APARTMENT	01 APARTMENTS	1,226,932	5,735,835	1.638	1.476	1.352
	02 OTHER HABITATIONAL	1,159,609	5,366,123	3.965	2.652	2.429
	TOTAL*	2,386,541	11,101,958	2.769	2.048	1.875
33 MULTILINE OFFICE	08 OFFICES AND BANKS	1,268,582	5,679,844	0.600	0.937	0.858
	TOTAL*	1,268,582	5,679,844	0.600	0.937	0.858
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	1,212,681	6,129,277	0.934	1.104	1.011
	04 OTHER MERCANTILE RS	3,521,953	18,702,763	0.603	0.772	0.707
	08 OFFICES AND BANKS	324,841	1,463,645	0.568	1.085	0.994
	13 MOTOR VEHICLE RISKS	177,057	879,011	0.023	0.986	0.903
	14 OTHER NON-MANUF.	202,644	921,112	0.214	1.029	0.942
	15 STORAGE	507,498	2,684,592	1.585	1.408	1.289
	TOTAL*	5,946,674	30,780,400	0.722	0.926	0.848

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 06/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY

35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	3,862	35,531	0.212	1.124	1.029
	05 PUBLIC BUILDINGS	157,017	864,302	0.825	1.184	1.084
	06 CHURCHES	2,200,277	13,120,997	0.986	1.083	0.992
	07 SCHOOLS	405,868	2,025,558	0.509	1.034	0.947
	08 OFFICES AND BANKS	225,573	1,225,037	1.110	1.248	1.143
	09 REC. FACILITIES	153,632	787,036	0.109	1.017	0.931
	11 HOSPITALS/NURS HOME	145,549	772,580	0.789	1.180	1.081
	13 MOTOR VEHICLE RISKS	4,795	46,362	0.485	1.167	1.069
	14 OTHER NON-MANUF.	73,638	516,986	0.120	1.050	0.962
	TOTAL*	3,370,211	19,394,389	0.860	1.093	1.001
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	120,100	708,646	0.265	0.713	0.653
	04 OTHER MERCANTILE RS	322,419	1,725,955	1.023	0.831	0.761
	08 OFFICES AND BANKS	390,265	2,726,458	0.926	0.817	0.748
	09 REC. FACILITIES	709,510	4,162,863	1.262	0.897	0.821
	13 MOTOR VEHICLE RISKS	805,302	4,749,017	0.638	0.754	0.690
	14 OTHER NON-MANUF.	506,734	2,476,260	0.585	0.752	0.689
	15 STORAGE	266,690	1,369,844	0.554	0.752	0.689
	21 METAL MANUFACTURING	17,592	113,544	0.000	0.685	0.627
	22 OTHER MANUFACTURING	84,871	443,970	0.077	0.689	0.631
	TOTAL*	3,223,483	18,476,557	0.801	0.797	0.730
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	346,230	1,594,255	0.539	0.748	0.685
	08 OFFICES AND BANKS	98,971	484,830	0.191	0.705	0.646
	13 MOTOR VEHICLE RISKS	4,009	50,892	0.337	0.731	0.669
	14 OTHER NON-MANUF.	79,827	443,006	3.228	1.136	1.040
	15 STORAGE	23,724	106,464	0.000	0.685	0.627
	17 FOOD MANUFACTURING	239,766	1,316,557	0.088	0.676	0.619
	18 WOOD MANUFACTURING	481,603	2,542,923	0.154	0.669	0.613
	19 WEARING APPAREL	290,591	1,681,810	0.054	0.664	0.608
	20 CHEM. MANUFACTURING	76,892	554,423	0.024	0.680	0.623
	21 METAL MANUFACTURING	872,936	5,028,170	1.126	0.872	0.799
	22 OTHER MANUFACTURING	836,432	4,250,161	0.867	0.808	0.740
	TOTAL*	3,350,981	18,053,491	0.682	0.777	0.712

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 06/30/17 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	454,876	2,299,143	0.754	0.784	0.718
	08 OFFICES AND BANKS	256,165	1,322,325	1.515	0.909	0.832
	14 OTHER NON-MANUF.	77,879	323,984	2.777	1.066	0.976
	TOTAL*	788,920	3,945,452	1.201	0.852	0.781
TOTAL ALL TOPS*	01 APARTMENTS	1,302,728	6,232,340	1.586	1.438	1.317
	02 OTHER HABITATIONAL	1,315,142	6,021,757	3.775	2.573	2.356
	03 RESTAURANTS & BARS	1,410,481	7,181,691	0.838	1.040	0.952
	04 OTHER MERCANTILE RS	5,131,867	26,775,013	0.663	0.785	0.719
	05 PUBLIC BUILDINGS	207,985	1,136,463	0.720	1.060	0.971
	06 CHURCHES	2,250,187	13,360,900	1.317	1.250	1.145
	07 SCHOOLS	529,196	2,899,349	0.429	0.877	0.803
	08 OFFICES AND BANKS	2,871,791	14,301,440	0.731	0.907	0.831
	09 REC. FACILITIES	1,001,661	5,609,899	1.048	0.929	0.851
	10 HOTELS AND MOTELS	1,332,080	6,422,354	3.432	2.417	2.214
	11 HOSPITALS/NURS HOME	172,145	916,524	0.836	1.158	1.061
	13 MOTOR VEHICLE RISKS	1,151,797	6,655,802	0.563	0.803	0.735
	14 OTHER NON-MANUF.	1,123,776	5,553,585	0.871	0.892	0.817
	15 STORAGE	919,051	4,781,302	1.120	1.111	1.018
	17 FOOD MANUFACTURING	265,564	1,414,419	0.079	0.674	0.617
	18 WOOD MANUFACTURING	569,418	2,964,063	0.130	0.623	0.571
	19 WEARING APPAREL	293,210	1,715,700	0.054	0.665	0.609
	20 CHEM. MANUFACTURING	91,466	627,098	0.020	0.683	0.625
	21 METAL MANUFACTURING	995,932	5,776,156	0.999	0.815	0.747
	22 OTHER MANUFACTURING	955,451	4,948,971	0.769	0.787	0.721
	TOTAL*	23,890,928	125,294,826	1.143	1.110	1.016

* 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 06/30/17 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	89,226	775,270	0.637	0.825	0.756
	02 OTHER HABITATIONAL	184,557	754,865	1.985	1.793	1.642
	03 RESTAURANTS & BARS	155,707	654,498	0.212	0.675	0.618
	04 OTHER MERCANTILE RS	652,762	3,190,895	1.095	0.905	0.829
	05 PUBLIC BUILDINGS	51,883	275,661	0.389	0.675	0.618
	06 CHURCHES	68,543	354,799	11.871	6.512	5.963
	07 SCHOOLS	140,650	1,024,091	0.271	0.414	0.379
	08 OFFICES AND BANKS	406,350	1,810,090	0.473	0.587	0.537
	09 REC. FACILITIES	165,841	796,189	0.849	0.957	0.876
	10 HOTELS AND MOTELS	113,101	513,044	0.866	0.985	0.902
	11 HOSPITALS/NURS HOME	36,085	200,805	0.808	0.910	0.833
	13 MOTOR VEHICLE RISKS	186,293	1,073,395	0.710	0.820	0.751
	14 OTHER NON-MANUF.	218,265	1,026,471	1.521	0.980	0.897
	15 STORAGE	166,609	843,408	0.475	0.712	0.652
	17 FOOD MANUFACTURING	37,819	135,734	0.000	0.712	0.652
	18 WOOD MANUFACTURING	96,400	457,229	0.000	0.410	0.375
	19 WEARING APPAREL	10,697	56,853	0.000	0.825	0.756
	20 CHEM. MANUFACTURING	36,355	140,249	0.000	0.754	0.690
	21 METAL MANUFACTURING	120,008	737,026	0.099	0.395	0.362
	22 OTHER MANUFACTURING	38,289	284,336	0.083	0.552	0.505
	TOTAL*	2,975,440	15,104,908	1.029	0.954	0.873
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	1,310,922	6,423,567	3.415	2.417	2.214
	TOTAL*	1,310,922	6,423,567	3.415	2.417	2.214
32 MULTILINE APARTMENT	01 APARTMENTS	1,569,236	7,449,826	1.420	1.316	1.205
	02 OTHER HABITATIONAL	1,360,139	6,373,207	3.626	2.476	2.267
	TOTAL*	2,929,375	13,823,033	2.444	1.855	1.698
33 MULTILINE OFFICE	08 OFFICES AND BANKS	1,495,050	6,833,580	0.734	0.985	0.902
	TOTAL*	1,495,050	6,833,580	0.734	0.985	0.902
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	1,475,140	7,534,139	1.077	1.180	1.080
	04 OTHER MERCANTILE RS	4,287,942	22,928,630	0.551	0.710	0.650
	08 OFFICES AND BANKS	355,313	1,642,549	0.566	1.069	0.979
	13 MOTOR VEHICLE RISKS	221,352	1,061,533	0.040	0.949	0.869
	14 OTHER NON-MANUF.	227,056	1,057,112	0.274	1.022	0.936
	15 STORAGE	565,237	2,993,378	1.429	1.336	1.223
	TOTAL*	7,132,040	37,217,341	0.705	0.892	0.817

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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 06/30/17 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	7,389	61,400	0.111	1.022	0.937
INSTITUTIONAL	05 PUBLIC BUILDINGS	163,578	895,601	0.792	1.172	1.074
	06 CHURCHES	2,669,393	15,821,619	1.221	1.243	1.138
	07 SCHOOLS	516,430	2,551,208	0.680	1.076	0.985
	08 OFFICES AND BANKS	350,721	1,903,381	0.879	1.077	0.986
	09 REC. FACILITIES	218,810	1,036,256	0.323	1.022	0.935
	11 HOSPITALS/NURS HOME	183,648	914,116	0.700	1.121	1.027
	13 MOTOR VEHICLE RISKS	5,204	49,849	0.447	1.148	1.051
	14 OTHER NON-MANUF.	88,209	603,586	0.107	1.017	0.931
	TOTAL*	4,203,382	23,837,016	1.013	1.184	1.084
36 MULTILINE	03 RESTAURANTS & BARS	143,776	816,601	0.221	0.719	0.659
SERVICES	04 OTHER MERCANTILE RS	417,793	2,140,796	0.848	0.858	0.786
	08 OFFICES AND BANKS	491,736	3,276,237	0.809	0.807	0.740
	09 REC. FACILITIES	834,313	5,096,718	1.082	0.851	0.780
	13 MOTOR VEHICLE RISKS	980,528	5,692,666	0.781	0.821	0.751
	14 OTHER NON-MANUF.	630,678	3,044,198	0.516	0.713	0.653
	15 STORAGE	310,995	1,625,235	1.174	0.862	0.790
	21 METAL MANUFACTURING	28,368	143,702	50.827	7.418	6.793
	22 OTHER MANUFACTURING	105,744	606,361	0.208	0.642	0.588
	TOTAL*	3,943,931	22,442,514	1.168	0.854	0.783
37 MULTILINE	04 OTHER MERCANTILE RS	390,088	1,809,004	0.478	0.775	0.710
INDUST/PROCESS	08 OFFICES AND BANKS	105,673	534,000	0.290	0.729	0.667
	13 MOTOR VEHICLE RISKS	4,009	52,929	0.337	0.731	0.669
	14 OTHER NON-MANUF.	92,785	511,345	2.777	1.048	0.960
	15 STORAGE	33,677	155,900	0.000	0.878	0.804
	17 FOOD MANUFACTURING	267,244	1,489,386	0.536	0.718	0.657
	18 WOOD MANUFACTURING	548,046	2,967,851	0.136	0.637	0.584
	19 WEARING APPAREL	322,036	1,878,034	0.049	0.627	0.574
	20 CHEM. MANUFACTURING	93,939	622,958	0.020	0.781	0.715
	21 METAL MANUFACTURING	1,027,456	5,980,141	1.068	0.883	0.809
	22 OTHER MANUFACTURING	912,647	4,599,109	0.795	0.797	0.730
	TOTAL*	3,797,600	20,600,657	0.667	0.780	0.714

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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 06/30/17 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	576,683	3,040,457	0.627	0.794	0.727
	08 OFFICES AND BANKS	299,325	1,585,846	1.309	0.898	0.822
	14 OTHER NON-MANUF.	99,019	402,749	2.184	0.932	0.854
	TOTAL*	975,027	5,029,052	0.994	0.840	0.769
TOTAL ALL TOPS*	01 APARTMENTS	1,658,462	8,225,096	1.377	1.290	1.181
	02 OTHER HABITATIONAL	1,552,085	7,189,472	3.414	2.388	2.187
	03 RESTAURANTS & BARS	1,774,623	9,005,238	0.932	1.098	1.006
	04 OTHER MERCANTILE RS	6,325,268	33,109,782	0.629	0.751	0.688
	05 PUBLIC BUILDINGS	215,461	1,171,262	0.695	1.053	0.964
	06 CHURCHES	2,737,936	16,176,418	1.487	1.375	1.259
	07 SCHOOLS	657,080	3,575,299	0.593	0.935	0.856
	08 OFFICES AND BANKS	3,504,168	17,585,683	0.748	0.916	0.839
	09 REC. FACILITIES	1,218,964	6,929,163	0.914	0.896	0.821
	10 HOTELS AND MOTELS	1,424,023	6,936,611	3.212	2.303	2.109
	11 HOSPITALS/NURS HOME	219,733	1,114,921	0.718	1.086	0.995
	13 MOTOR VEHICLE RISKS	1,397,386	7,930,372	0.652	0.842	0.771
	14 OTHER NON-MANUF.	1,356,012	6,645,461	0.887	0.866	0.794
	15 STORAGE	1,076,518	5,617,921	1.163	1.088	0.997
	17 FOOD MANUFACTURING	305,063	1,625,120	0.470	0.717	0.657
	18 WOOD MANUFACTURING	644,446	3,425,080	0.116	0.603	0.553
	19 WEARING APPAREL	332,733	1,934,887	0.047	0.633	0.580
	20 CHEM. MANUFACTURING	130,294	763,207	0.014	0.773	0.708
	21 METAL MANUFACTURING	1,175,832	6,860,869	2.169	0.991	0.907
	22 OTHER MANUFACTURING	1,056,680	5,489,806	0.710	0.773	0.708
	TOTAL*	28,762,767	151,311,668	1.154	1.092	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 06/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
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10 MONOLINE	01 BUILDINGS	928,876	4,640,977	1.671	1.730
	02 RES. APTS. AND COND	11,913	65,179	0.365	0.378
	03 OFFICES	117,526	592,678	0.693	0.717
	04 MERCANTILE - HIGH	156,961	707,288	0.349	0.361
	05 MERCANTILE - MEDIUM	54,704	245,611	0.694	0.718
	06 MERCANTILE - LOW	29,910	144,910	2.038	2.110
	07 MOTELS AND HOTELS	8,655	39,159	0.383	0.396
	08 INSTITUTIONAL - HIG	39,718	579,795	0.112	0.116
	09 INSTITUTIONAL - LOW	28,466	166,470	2.283	2.363
	10 INDUST-PROC - HIGH	14,427	53,959	0.034	0.035
	11 INDUST-PROC - LOW	55,308	268,570	0.168	0.174
	12 SERVICE - HIGH	41,247	219,784	4.275	4.425
	13 SERVICE - LOW	53,037	287,627	0.928	0.961
	14 CONTRACTORS	14,786	71,777	1.459	1.510
	TOTAL*	1,555,534	8,083,784	1.364	1.412
31 MULTILINE	01 BUILDINGS	488,401	2,384,248	0.981	1.016
MOTEL/HOTEL	07 MOTELS AND HOTELS	133,374	679,330	0.596	0.617
	TOTAL*	621,775	3,063,578	0.898	0.930
32 MULTILINE	01 BUILDINGS	839,408	4,595,047	0.683	0.707
APARTMENT	02 RES. APTS. AND COND	299,747	1,294,811	0.262	0.271
	TOTAL*	1,139,155	5,889,858	0.572	0.592
33 MULTILINE	01 BUILDINGS	767,972	3,585,532	0.685	0.709
OFFICE	03 OFFICES	485,534	2,260,089	0.531	0.550
	04 MERCANTILE - HIGH	270	807	0.000	0.000
	08 INSTITUTIONAL - HIG	242	2,374	0.000	0.000
	11 INDUST-PROC - LOW	0	65	0.000	0.000
	12 SERVICE - HIGH	675	2,479	0.000	0.000
	TOTAL*	1,254,693	5,851,346	0.625	0.647

TENNESSEE

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	1,937,757	9,837,053	1.165	1.206
	03 OFFICES	5,856	26,180	2.075	2.148
	04 MERCANTILE - HIGH	467,467	2,191,023	0.947	0.980
	05 MERCANTILE - MEDIUM	391,873	2,317,748	0.679	0.703
	06 MERCANTILE - LOW	189,016	972,174	0.892	0.923
	08 INSTITUTIONAL - HIG	197	569	0.000	0.000
	11 INDUST-PROC - LOW	1,294	2,864	0.000	0.000
	12 SERVICE - HIGH	9,767	48,673	2.374	2.458
	13 SERVICE - LOW	5,623	28,326	2.425	2.510
	14 CONTRACTORS	5,324	22,996	0.048	0.050
	TOTAL*	3,014,174	15,447,606	1.056	1.093
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	1,965,576	11,740,979	1.179	1.220
	03 OFFICES	3,769	13,850	0.000	0.000
	08 INSTITUTIONAL - HIG	337,916	1,712,302	0.563	0.583
	09 INSTITUTIONAL - LOW	709,822	3,607,307	0.497	0.514
	12 SERVICE - HIGH	502	8,904	0.000	0.000
	13 SERVICE - LOW	116	227	0.000	0.000
	14 CONTRACTORS	980	6,447	0.000	0.000
	TOTAL*	3,018,681	17,090,016	0.948	0.981
36 MULTILINE SERVICES	01 BUILDINGS	1,465,005	7,391,847	1.153	1.194
	03 OFFICES	8,020	39,865	0.012	0.012
	04 MERCANTILE - HIGH	14,810	64,810	0.125	0.129
	05 MERCANTILE - MEDIUM	3,845	15,082	8.008	8.290
	06 MERCANTILE - LOW	1,709	9,866	0.942	0.975
	08 INSTITUTIONAL - HIG	16,145	96,504	0.000	0.000
	09 INSTITUTIONAL - LOW	31,613	150,172	0.000	0.000
	10 INDUST-PROC - HIGH	2,362	11,562	0.000	0.000
	11 INDUST-PROC - LOW	5,947	19,589	2.769	2.866
	12 SERVICE - HIGH	432,973	2,628,390	1.575	1.630
	13 SERVICE - LOW	211,456	1,126,857	0.953	0.987
	14 CONTRACTORS	7,581	41,400	0.248	0.257
	TOTAL*	2,201,466	11,595,944	1.193	1.235

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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 06/30/17 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
37 MULTILINE INDUST/PROC	01 BUILDINGS	854,559	4,387,149	0.793	0.821
	03 OFFICES	1,906	10,651	0.183	0.189
	04 MERCANTILE - HIGH	7,366	31,556	0.080	0.083
	05 MERCANTILE - MEDIUM	223	1,272	0.000	0.000
	06 MERCANTILE - LOW	147	1,174	0.000	0.000
	10 INDUST-PROC - HIGH	104,904	589,538	0.523	0.541
	11 INDUST-PROC - LOW	461,314	2,495,609	0.718	0.743
	12 SERVICE - HIGH	1,124	2,936	1.753	1.815
	13 SERVICE - LOW	958	2,984	0.000	0.000
	14 CONTRACTORS	1,798	4,164	13.354	13.824
	TOTAL*	1,434,299	7,527,033	0.760	0.787
38 MULTILINE CONTRACTORS	01 BUILDINGS	342,675	1,660,858	0.507	0.525
	03 OFFICES	22,188	109,130	3.282	3.398
	04 MERCANTILE - HIGH	48,100	173,026	0.999	1.034
	05 MERCANTILE - MEDIUM	326	2,666	0.000	0.000
	06 MERCANTILE - LOW	9,274	33,744	0.279	0.289
	08 INSTITUTIONAL - HIG	409	790	0.000	0.000
	11 INDUST-PROC - LOW	261	361	0.000	0.000
	12 SERVICE - HIGH	1,651	5,811	0.172	0.178
	13 SERVICE - LOW	1,701	5,498	1.174	1.215
	14 CONTRACTORS	345,520	1,900,592	0.932	0.965
	TOTAL*	772,105	3,892,476	0.805	0.833
TOTAL ALL TOPS*	01 BUILDINGS	9,590,229	50,223,690	1.068	1.106
	02 RES. APTS. AND COND	311,660	1,359,990	0.266	0.275
	03 OFFICES	644,799	3,052,443	0.659	0.682
	04 MERCANTILE - HIGH	694,974	3,168,510	0.788	0.816
	05 MERCANTILE - MEDIUM	450,971	2,582,379	0.742	0.768
	06 MERCANTILE - LOW	230,056	1,161,868	1.016	1.052
	07 MOTELS AND HOTELS	142,029	718,489	0.583	0.604
	08 INSTITUTIONAL - HIG	394,627	2,392,334	0.493	0.510
	09 INSTITUTIONAL - LOW	769,901	3,923,949	0.543	0.562
	10 INDUST-PROC - HIGH	121,693	655,059	0.455	0.471
	11 INDUST-PROC - LOW	524,124	2,787,058	0.681	0.705
	12 SERVICE - HIGH	487,939	2,916,977	1.811	1.875
	13 SERVICE - LOW	272,891	1,451,519	0.976	1.010
	14 CONTRACTORS	375,989	2,047,376	0.983	1.018
	TOTAL*	15,011,882	78,441,641	0.966	1.000

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

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>2017 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>2013-2017 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: +13.6%

	(1) ACCIDENT YEAR ENDING 06/30/17 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	(2) ACCIDENT YEARS 2008-2017 EXPER. RATIO AT CURRENT PMF	(3) FORMULA RELATIVITY (2) / 1.239	(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	2,488,988	1.222	0.986	0.358	0.995	0.995	0.9938			+12.9%
MULTILINE	19,325,215	1.241	1.002	0.821	1.002	1.002	1.0007			+13.7%
COVERAGE	21,814,203	1.239	1.000			1.0012 B	0.9999			+13.6%
MULTILINE TOP										
31 MOTEL/HOTEL	764,686	2.194	1.771	0.133	1.103	1.111	1.1097	1.079	1.205	+26.1%
32 APARTMENT	1,540,094	1.503	1.213	0.261	1.056	1.063	1.0617	0.859	0.918	+20.6%
33 OFFICE	1,220,470	0.837	0.676	0.179	0.942	0.949	0.9479	0.746	0.712	+7.7%
34 MERCANTILE	5,101,387	1.158	0.935	0.519	0.966	0.973	0.9718	0.912	0.892	+10.4%
35 INSTITUTIONAL	5,519,832	1.265	1.021	0.614	1.013	1.020	1.0188	0.964	0.988	+15.7%
36 SERVICES	3,068,199	1.185	0.956	0.407	0.982	0.989	0.9878	0.887	0.882	+12.2%
37 INDUST/PROCESS	1,606,966	1.141	0.921	0.278	0.978	0.985	0.9838	0.730	0.723	+11.8%
38 CONTRACTORS	503,581	1.196	0.965	0.111	0.996	1.003	1.0018	0.647	0.652	+13.8%
	19,325,215	1.241 B	1.002		0.995 B	1.002 B	1.0007 B			+13.7%

B - AVERAGE WEIGHTED BY COLUMN (1)

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

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

E - (6) = (5) * (1.002/0.995)

F - (7) = (6) / 1.0012

G - (9) = (7) * (8) / (0.9938)

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)

2017 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)

2008 - 2017 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 - SUPPORTING MATERIAL

Overview	C2-3
Loss Cost/Rate Level Histories (Tables 13 - 17).....	C4-14
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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	0.394	0.671
2002-01-01	-12.1	0.807	0.449	1.000
2003-05-01	-4.3	0.772	0.469	0.671
2004-02-01	-22.5	0.598	0.605	0.915
2006-01-01	-8.5	0.548	0.661	1.000
2009-01-01	-6.0	0.515	0.703	1.000
2010-01-01	-4.5	0.492	0.736	1.000
2011-04-01	-13.3	0.426	0.850	0.753
2012-04-01	-16.7	0.355	1.020	0.751
2014-04-01	0.6	0.357	1.014	0.753
2016-01-01	1.4	0.362	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	1.108	0.671
2002-01-01	9.9	1.108	1.008	1.000
2003-05-01	-8.2	1.017	1.098	0.671
2004-02-01	0.2	1.019	1.096	0.915
2006-01-01	14.4	1.166	0.958	1.000
2009-01-01	-7.0	1.084	1.030	1.000
2010-01-01	-9.1	0.985	1.134	1.000
2011-04-01	-11.3	0.874	1.278	0.753
2012-04-01	0.0	0.874	1.278	0.751
2014-04-01	8.8	0.951	1.175	0.753
2016-01-01	17.5	1.117	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	0.895	0.671
2002-01-01	-1.3	0.764	0.907	1.000
2003-05-01	-10.0	0.688	1.007	0.671
2004-02-01	-0.4	0.685	1.012	0.915
2006-01-01	4.3	0.714	0.971	1.000
2009-01-01	-15.3	0.605	1.145	1.000
2010-01-01	-8.1	0.556	1.246	1.000
2011-04-01	-0.3	0.554	1.251	0.753
2012-04-01	5.9	0.587	1.181	0.751
2014-04-01	11.0	0.652	1.063	0.753
2016-01-01	6.4	0.693	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

TENNESSEE
TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Nashville FPSA

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

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

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

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	0.835	0.500	1.500
32	APARTMENT	0.957	0.500	1.500
33	OFFICE	0.950	0.500	1.500
34	MERCANTILE	1.019	0.500	1.500
35	INSTITUTIONAL	0.943	0.500	1.500
36	SERVICES	1.034	0.500	1.500
37	INDUST/PROCESSING	1.197	0.500	1.500
38	CONTRACTORS	1.052	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	1.079	0.500	1.500
32	APARTMENT	0.859	0.500	1.500
33	OFFICE	0.746	0.500	1.500
34	MERCANTILE	0.912	0.500	1.500
35	INSTITUTIONAL	0.964	0.500	1.500
36	SERVICES	0.887	0.500	1.500
37	INDUST/PROCESSING	0.730	0.500	1.500
38	CONTRACTORS	0.647	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	1.447	0.500	1.500
32	APARTMENT	1.250	0.500	1.500
33	OFFICE	1.168	0.500	1.500
34	MERCANTILE	0.841	0.500	1.500
35	INSTITUTIONAL	1.017	0.500	1.500
36	SERVICES	1.017	0.500	1.500
37	INDUST/PROCESSING	0.957	0.500	1.500
38	CONTRACTORS	1.108	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, 2018 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, 2017. 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, 2018

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>RSALLES</u>	Time Element Combined <u>Index</u>
Q2-2015	108.8	113.7	1.050	1.055	1.054
Q3-2015	109.5	114.0	1.052	1.054	1.053
Q4-2015	110.0	113.9	1.051	1.044	1.046
Q1-2016	110.5	114.4	1.046	1.034	1.038
Q2-2016	110.7	114.3	1.051	1.035	1.040
Q3-2016	111.3	114.3	1.049	1.033	1.038
Q4-2016	111.9	114.6	1.053	1.036	1.041
Q1-2017	112.7	115.5	1.055	1.043	1.047
Q2-2017	114.0	116.5	1.052	1.035	1.040
Q3-2017	115.0	116.3	1.059	1.037	1.044
Q4-2017	115.5	117.2	1.060	1.043	1.048
Q1-2018	116.6	117.6	1.061	1.047	1.051

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

$$\text{Annual Rate of Change} = 0.0250 = 2.5\% \quad R^2 = 0.972$$

$$\text{Loss Projection Factor for Buildings} = 1.0250^{22.5/12 (b)} = 1.0474$$

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

$$\text{Annual Rate of Change} = 0.0124 = 1.24\% \quad R^2 = 0.895$$

$$\text{Loss Projection Factor for Contents} = 1.0124^{22.5/12 (b)} = 1.0234$$

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

$$\text{Annual Rate of Change} = -0.0008 = -0.08\% \quad R^2 = 0.016$$

$$\text{Loss Projection Factor for Time Element} = 0.9992^{22.5/12 (b)} = 0.9985$$

- (a) 30% weight for IMSEP and 70% weight for RSALES. IMSEP & RSALES indices were rescaled to a 2009 year base.
- (b) Assuming a rate or loss cost revision date of January 1, 2019, and all one year policies, the time interval between the midpoint of the latest period (02/15/2018) and the average date of accident (01/01/2020) 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 <u>Averages</u>				Current Cost Factors Based on Average Index Values for <u>Period ending March 31, 2018</u>				
<u>Year</u>	<u>XCI</u>	<u>PPI</u>	<u>Time Element Index</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>		
2007	92.6	94.5	0.989	116.6/ 92.6 = 1.259	117.6 / 94.5 = 1.245	1.051 / 0.989 =	1.063	
2008	97.0	98.5	1.008	116.6/ 97.0 = 1.203	117.6 / 98.5 = 1.194	1.051 / 1.008 =	1.043	
2009	100.0	100.0	1.000	116.6/ 100.0 = 1.166	117.6/ 100.0 = 1.176	1.051 / 1.000 =	1.051	
2010	99.3	101.8	1.015	116.6/ 100.0 = 1.175	117.6 / 101.8 = 1.155	1.051 / 1.015 =	1.035	
2011	100.0	105.2	1.048	116.6/ 100.0 = 1.166	117.6 / 105.2 = 1.118	1.051 / 1.048 =	1.003	
2012	101.0	108.0	1.064	116.6/ 101.0 = 1.154	117.6 / 108.0 = 1.089	1.051 / 1.064 =	0.988	
2013	102.7	109.8	1.067	116.6/ 102.7 = 1.135	117.6 / 109.8 = 1.072	1.051 / 1.067 =	0.985	
2014	104.7	112.5	1.069	116.6/ 104.7 = 1.114	117.6 / 112.5 = 1.045	1.051 / 1.069 =	0.983	
2015	109.1	113.8	1.051	116.6/ 109.1 = 1.068	117.6 / 113.8 = 1.033	1.051 / 1.051 =	1.000	
2016	111.1	114.4	1.039	116.6/ 111.1 = 1.050	117.6 / 114.4 = 1.028	1.051 / 1.039 =	1.012	
2017	114.3	116.4	1.045	116.6/ 114.3 = 1.020	117.6 / 116.4 = 1.011	1.051 / 1.045 =	1.006	

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 2009 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> <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>
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	2,963,900,922	-0.4
BASIC GROUP II	3,110,504,121	0.5
SPECIAL CAUSES OF LOSS	1,645,968,334	0.3
TOTAL	7,720,373,377	0.1
 <u>CONTENTS</u>		
BASIC GROUP I	930,719,601	0.5
BASIC GROUP II	303,611,682	0.8
SPECIAL CAUSES OF LOSS	677,516,051	0.5
TOTAL	1,911,847,334	0.5
 <u>TIME ELEMENT</u>		
BASIC GROUP I	335,351,732	2.5
BASIC GROUP II	80,288,943	2.2
SPECIAL CAUSES OF LOSS	112,591,087	2.5
TOTAL	528,231,762	2.5
 GRAND TOTAL	10,160,452,473	0.3

* 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 2018 COMFAL reviews is based on internal commercial property experience through 12/31/2016 and external cost indices through 12/31/2016. 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
2007	1.208	1.213	1.053		0.10
2008	1.154	1.163	1.033		0.10
2009	1.119	1.146	1.041		0.10
2010	1.127	1.126	1.026		0.10
2011	1.119	1.089	0.993		0.10
2012	1.108	1.062	0.978	0.10	0.10
2013	1.090	1.044	0.976	0.15	0.10
2014	1.069	1.018	0.974	0.20	0.10
2015	1.025	1.007	0.990	0.25	0.10
2016	1.007	1.001	1.002	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))	1.047	1.019	0.987
Basic Group II (Weighted on Column (5))	1.103	1.087	1.007

(7) LOSS PROJECTION FACTORS

	Buildings	Contents	Time Element
Annual Rate of Change	0.030	0.008	-0.013
Loss Projection Factor: ^b $(1.0 + \text{Annual Rate of Change})^{(X/12)}$	1.081	1.022	0.967

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

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss	1.132	1.042	0.954
Basic Group II	1.193	1.111	0.974

(9) EXTERNAL ANNUAL RATE OF CHANGE^c

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss: $(\text{Total Trend Factor})^{12/54}$	1.028	1.009	0.990
Basic Group II: $(\text{Total Trend Factor})^{12/90}$	1.024	1.014	0.996

- (a) The Current Cost Factors and Loss Projection Factors on this exhibit are based on external economic indices through December 31, 2016 for Buildings, Contents and Time Element.
- (b) Assuming a loss cost revision date of July 1, 2018, the time interval between the midpoint of the latest period of external trend information (November 15, 2016) and the prospective average date of loss (July 1, 2019) 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, 2019) is 54 months for BG I and SCL, and 90 months for BG II. The weighted midpoint is January 1, 2015 for BG I and SCL, and January 1, 2012 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)	1.040	1.050	1.040
Basic Group II (BGII)	1.035	1.030	1.040
Special Causes of Loss	1.035	1.030	1.040

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)	1.028	1.040	1.2	0.6	-1.0	-0.4
Basic Group II (BGII)	1.024	1.035	1.1	0.5	0.0	0.5
Special Causes of Loss	1.028	1.035	0.7	0.3	0.0	0.3

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)	1.009	1.050	4.1	2.0	-1.5	0.5
Basic Group II (BGII)	1.014	1.030	1.6	0.8	0.0	0.8
Special Causes of Loss	1.009	1.030	2.1	1.0	-0.5	0.5

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)	0.990	1.040	5.1	2.5	0.0	2.5
Basic Group II (BGII)	0.996	1.040	4.4	2.2	0.0	2.2
Special Causes of Loss	0.990	1.040	5.1	2.5	0.0	2.5

(d) The external rates of change are based on external economic indices through December 31, 2016 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 12/31/2016 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 1/1/2015, for BG II it is 1/1/2012. Accordingly, there are 54 and 90 months, respectively, to the anticipated average accident date of 7/1/2019.

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>07-01-2017</u> <u>Written</u> <u>Factors</u>	<u>07-01-2019</u> <u>Projected</u> <u>Factors</u>	<u>07-01-2019</u> <u>Earned</u> <u>Factors</u>	<u>Annual</u> <u>Written</u> <u>Increase</u>	<u>07-01-2017</u> <u>Written</u> <u>Factors</u>	<u>07-01-2019</u> <u>Projected</u> <u>Factors</u>	<u>07-01-2019</u> <u>Earned</u> <u>Factors</u>
2005	3.4%	1.393	1.449	1.498	2.1%	1.267	1.310	1.338
2006	3.8%	1.342	1.396	1.449	2.1%	1.241	1.284	1.310
2007	3.9%	1.292	1.344	1.396	2.4%	1.212	1.254	1.284
2008	3.5%	1.248	1.298	1.345	2.4%	1.184	1.225	1.254
2009	3.3%	1.208	1.257	1.299	2.2%	1.159	1.199	1.225
2010	2.5%	1.179	1.227	1.258	1.7%	1.140	1.179	1.200
2011	2.5%	1.150	1.196	1.227	1.8%	1.120	1.158	1.179
2012	2.7%	1.120	1.165	1.196	1.8%	1.100	1.138	1.158
2013	2.6%	1.092	1.136	1.165	2.1%	1.077	1.114	1.138
2014	2.5%	1.065	1.108	1.136	2.1%	1.055	1.091	1.114
2015	2.3%	1.041	1.083	1.108	1.9%	1.035	1.070	1.091
2016	2.1%	1.020	1.061	1.083	1.8%	1.017	1.052	1.070
2017	2.0%	1.000	1.040	1.061	1.7%	1.000	1.034	1.052

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 2.0% and 1.7% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2017 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2019 (i.e., 6 months beyond an assumed revision date of 01/01/2019), by applying a factor of $(1.020)^{24/12}$ for Buildings and $(1.017)^{24/12}$ 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 01/01/2017 to 12/31/2017 to the projected level are 1.061 for Buildings and 1.052 for Contents.

TABLE 24A (cont'd)

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

<u>Time Element</u>				
	(1) ^a	(2) ^a	(3) ^b	(4) ^c
<u>Year</u>	<u>Annual</u> <u>Written</u> <u>Increase</u>	<u>07-01-2017</u> <u>Written</u> <u>Factors</u>	<u>07-01-2019</u> <u>Projected</u> <u>Factors</u>	<u>07-01-2019</u> <u>Earned</u> <u>Factors</u>
2005	1.3%	1.127	1.150	1.165
2006	1.4%	1.111	1.133	1.150
2007	1.3%	1.097	1.119	1.133
2008	1.3%	1.083	1.105	1.119
2009	0.8%	1.074	1.096	1.106
2010	0.7%	1.067	1.088	1.096
2011	0.8%	1.059	1.080	1.088
2012	0.8%	1.051	1.072	1.080
2013	0.9%	1.042	1.063	1.072
2014	1.0%	1.032	1.053	1.063
2015	1.1%	1.021	1.042	1.053
2016	1.1%	1.010	1.030	1.042
2017	1.0%	1.000	1.020	1.030

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 1.0%. Consequently, the written factors at 07/01/2017 levels in column (2) are brought to the level of the average date of writing in the effective period, 07/01/2019 (i.e., 6 months beyond an assumed revision date of 01/01/2019), by applying a factor of $(1.010)^{24/12}$ 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 01/01/2017 to 12/31/2017 to the projected level is 1.030.

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	07-01-2017	07-01-2019	07-01-2019	Annual	07-01-2017	07-01-2019	07-01-2019
	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>
2005	2.7%	1.308	1.350	1.386	1.8%	1.219	1.253	1.276
2006	3.1%	1.269	1.310	1.350	1.8%	1.197	1.231	1.253
2007	3.1%	1.231	1.271	1.310	2.0%	1.174	1.207	1.231
2008	2.8%	1.197	1.236	1.272	2.0%	1.151	1.183	1.207
2009	2.7%	1.166	1.204	1.236	1.8%	1.131	1.163	1.184
2010	2.0%	1.143	1.180	1.205	1.4%	1.115	1.146	1.163
2011	2.0%	1.121	1.157	1.180	1.5%	1.099	1.130	1.146
2012	2.2%	1.097	1.132	1.157	1.5%	1.083	1.114	1.130
2013	2.1%	1.074	1.109	1.132	1.8%	1.064	1.094	1.114
2014	2.0%	1.053	1.087	1.109	1.8%	1.045	1.074	1.094
2015	1.9%	1.033	1.066	1.087	1.6%	1.029	1.058	1.075
2016	1.7%	1.016	1.049	1.067	1.5%	1.014	1.043	1.058
2017	1.6%	1.000	1.032	1.049	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 1.6% and 1.4% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2017 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2019 (i.e., 6 months beyond an assumed revision date of 01/01/2019), by applying a factor of $(1.016)^{24/12}$ 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:

	<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 01/01/2017 to 12/31/2017 to the projected level are 1.049 for Buildings and 1.043 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 07-01-2017 Written Factors	(3) ^b 07-01-2019 Projected Factors	(4) ^c 07-01-2019 Earned Factors	(5) ^a Annual Written Increase	(6) ^a 07-01-2017 Written Factors	(7) ^b 07-01-2019 Projected Factors	(8) ^c 07-01-2019 Earned Factors
Year								
2005	2.5%	1.283	1.322	1.355	1.6%	1.198	1.229	1.249
2006	2.8%	1.248	1.286	1.322	1.6%	1.179	1.210	1.229
2007	2.9%	1.213	1.250	1.286	1.8%	1.158	1.188	1.210
2008	2.6%	1.182	1.218	1.251	1.8%	1.138	1.168	1.188
2009	2.4%	1.154	1.189	1.218	1.7%	1.119	1.148	1.168
2010	1.9%	1.132	1.166	1.190	1.3%	1.105	1.134	1.149
2011	1.9%	1.111	1.145	1.166	1.4%	1.090	1.119	1.134
2012	2.0%	1.089	1.122	1.145	1.4%	1.075	1.103	1.119
2013	1.9%	1.069	1.101	1.122	1.6%	1.058	1.086	1.103
2014	1.9%	1.049	1.081	1.101	1.6%	1.041	1.068	1.086
2015	1.7%	1.031	1.062	1.081	1.4%	1.027	1.054	1.069
2016	1.6%	1.015	1.046	1.062	1.4%	1.013	1.040	1.054
2017	1.5%	1.000	1.030	1.046	1.3%	1.000	1.026	1.040

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 1.5% and 1.3% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2017 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2019 (i.e., 6 months beyond an assumed revision date of 01/01/2019), by applying a factor of $(1.015)^{24/12}$ for Buildings and $(1.013)^{24/12}$ 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 01/01/2017 to 12/31/2017 to the projected level are 1.046 for Buildings and 1.040 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	07-01-2017 Written Factors	07-01-2019 Projected Factors	07-01-2019 Earned Factors	Annual Written Increase	07-01-2017 Written Factors	07-01-2019 Projected Factors	07-01-2019 Earned Factors
2005	2.6%	1.291	1.330	1.365	1.4%	1.169	1.195	1.211
2006	2.9%	1.255	1.293	1.330	1.4%	1.153	1.179	1.195
2007	3.0%	1.218	1.255	1.293	1.6%	1.135	1.160	1.179
2008	2.7%	1.186	1.222	1.256	1.6%	1.117	1.142	1.160
2009	2.5%	1.157	1.192	1.222	1.4%	1.102	1.126	1.142
2010	1.9%	1.135	1.169	1.193	1.1%	1.090	1.114	1.127
2011	1.9%	1.114	1.148	1.169	1.2%	1.077	1.101	1.114
2012	2.1%	1.091	1.124	1.148	1.2%	1.064	1.088	1.101
2013	2.0%	1.070	1.102	1.124	1.4%	1.049	1.072	1.088
2014	1.9%	1.050	1.082	1.102	1.4%	1.035	1.058	1.072
2015	1.8%	1.031	1.062	1.082	1.2%	1.023	1.046	1.058
2016	1.6%	1.015	1.046	1.063	1.2%	1.011	1.033	1.046
2017	1.5%	1.000	1.030	1.046	1.1%	1.000	1.022	1.033

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 1.5% and 1.1% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2017 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 07/01/2019 (i.e., 6 months beyond an assumed revision date of 01/01/2019), by applying a factor of $(1.015)^{24/12}$ for Buildings and $(1.011)^{24/12}$ 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 01/01/2017 to 12/31/2017 to the projected level are 1.046 for Buildings and 1.033 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) 07-01-2017 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 2017 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 2017 are applicable for the entire year.

COLUMNS (3) 07-01-2019 PROJECTED FACTORS

AND (7)

The 07-01-2019 factors are calculated by applying a factor to adjust the 07-01-2017 written factors to the amount of insurance level at the average date of writing, 07-01-2019. This is done using the selected annual changes in exposure or premium.

COLUMNS (4) 07-01-2019 EARNED EXPOSURES/PREMIUM FACTORS

AND (8)

The projected earned factors at the 07-01-2019 level (where 07-01-2019 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
2013	24,067,563	30,218,173	1.256	82.2%	14.9%	2.9%
2014	20,459,347	25,167,060	1.230	68.3%	26.1%	5.6%
2015	20,232,142	23,778,093	1.175	73.6%	23.4%	3.0%
2016	15,210,334	17,360,094	1.141	71.6%	23.5%	4.9%
2017	69,620,400	77,266,140	1.110	75.3%	15.8%	8.9%

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)	SPLIT %		TIME
				BUILDINGS	CONTENTS	ELEMENT
2008	58,916,374	81,280,206	1.380	77.5%	21.4%	1.1%
2009	18,625,728	24,339,903	1.307	93.5%	5.0%	1.5%
2010	11,932,029	15,579,419	1.306	88.9%	7.6%	3.5%
2011	107,985,465	137,828,035	1.276	95.5%	3.5%	1.0%
2012	48,441,738	61,592,769	1.271	99.0%	1.0%	0.0%
2013	14,359,257	17,888,947	1.246	96.1%	3.5%	0.4%
2014	8,676,639	10,607,109	1.222	93.0%	6.1%	0.9%
2015	7,319,337	8,583,158	1.173	93.1%	6.4%	0.5%
2016	5,967,510	6,792,591	1.138	93.1%	5.3%	1.6%
2017	50,574,307	55,651,102	1.100	93.8%	4.9%	1.3%

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
2013	6,886,059	8,526,683	1.238	79.9%	20.0%	0.1%
2014	18,092,510	21,712,403	1.200	77.8%	20.1%	2.1%
2015	27,302,942	31,249,056	1.145	77.0%	21.3%	1.7%
2016	8,423,297	9,480,725	1.126	71.8%	24.9%	3.3%
2017	11,138,375	12,219,295	1.097	74.4%	23.2%	2.4%

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, 2017, 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, 2017.

Accident year ended June 30, 2017 includes all losses paid on accidents from July 1, 2016 to June 30, 2017 and all losses outstanding on those accidents as of September 30, 2017, fifteen months after the inception of the accident year. Similarly, accident years ended June 30, 2016, 2015, 2014 and 2013 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 2008-2017
EVALUATED AS OF 9/2017

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2008	994,609,406	975,404,218	954,737,819	944,974,908	944,636,580
6/30/2009	1,008,300,664	988,768,735	980,981,839	989,204,832	985,052,424
6/30/2010	906,361,204	902,368,456	889,257,372	881,582,804	877,070,716
6/30/2011	948,503,064	935,077,081	919,279,122	907,187,665	906,549,853
6/30/2012	889,957,913	863,678,700	845,501,437	841,057,009	835,400,314
6/30/2013	1,000,019,666	969,353,148	954,352,511	943,248,206	928,541,164
6/30/2014	943,608,016	945,151,909	933,908,976	920,661,140	
6/30/2015	853,108,324	852,350,972	834,940,315		
6/30/2016	865,847,748	851,643,965			
6/30/2017	898,636,541				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2008	0.981	0.979	0.990	1.000
6/30/2009	0.981	0.992	1.008	0.996
6/30/2010	0.996	0.985	0.991	0.995
6/30/2011	0.986	0.983	0.987	0.999
6/30/2012	0.970	0.979	0.995	0.993
6/30/2013	0.969	0.985	0.988	0.984
6/30/2014	1.002	0.988	0.986	
6/30/2015	0.999	0.980		
6/30/2016	0.984			
5 POINT AVERAGE	0.985	0.983	0.989	0.993

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $0.985 \times 0.983 \times 0.989 \times 0.993 = 0.951$

27 MONTHS TO ULTIMATE = $0.983 \times 0.989 \times 0.993 = 0.965$

39 MONTHS TO ULTIMATE = $0.989 \times 0.993 = 0.982$

51 MONTHS TO ULTIMATE = $0.993 = 0.993$

TABLE 28
BASIC GROUP II
INCURRED LOSSES
LOSS YEARS 2008-2017
EVALUATED AS OF 9/2017

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2008	677,467,895	683,057,291	681,971,041	683,584,884	684,579,882
6/30/2009	570,866,010	619,299,390	624,786,993	625,623,326	627,333,856
6/30/2010	568,490,178	589,294,316	592,598,950	594,315,038	595,741,771
6/30/2011	1,145,579,772	1,246,309,027	1,257,852,494	1,267,255,542	1,281,503,962
6/30/2012	852,477,348	904,761,039	917,193,236	930,161,791	933,917,299
6/30/2013	737,267,457	782,620,671	795,526,727	808,558,539	816,407,573
6/30/2014	633,774,241	664,483,911	671,866,958	678,502,826	
6/30/2015	425,754,507	457,056,489	468,185,864		
6/30/2016	631,706,969	676,612,052			
6/30/2017	777,647,460				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2008	1.008	0.998	1.002	1.001
6/30/2009	1.085	1.009	1.001	1.003
6/30/2010	1.037	1.006	1.003	1.002
6/30/2011	1.088	1.009	1.007	1.011
6/30/2012	1.061	1.014	1.014	1.004
6/30/2013	1.062	1.016	1.016	1.010
6/30/2014	1.048	1.011	1.010	
6/30/2015	1.074	1.024		
6/30/2016	1.071			
5 POINT AVERAGE	1.063	1.015	1.010	1.006

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.063 \times 1.015 \times 1.010 \times 1.006 = 1.096$

27 MONTHS TO ULTIMATE = $1.015 \times 1.010 \times 1.006 = 1.031$

39 MONTHS TO ULTIMATE = $1.010 \times 1.006 = 1.016$

51 MONTHS TO ULTIMATE = $1.006 = 1.006$

TABLE 28

SPECIAL CAUSES OF LOSS
INCURRED LOSSES
LOSS YEARS 2008-2017
EVALUATED AS OF 9/2017

YEAR ENDING	LOSSES AS OF				
	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
6/30/2008	498,354,072	501,829,140	497,076,645	497,330,527	496,907,109
6/30/2009	615,935,697	610,009,666	613,904,839	607,812,020	607,492,213
6/30/2010	644,332,409	633,870,658	633,435,250	631,291,415	631,548,599
6/30/2011	723,395,475	708,675,010	700,127,297	699,739,322	697,996,062
6/30/2012	447,855,550	435,341,947	430,108,625	431,084,328	427,848,117
6/30/2013	471,369,992	477,082,981	470,204,917	471,874,455	473,224,992
6/30/2014	674,570,887	671,019,778	666,229,538	668,025,666	
6/30/2015	634,216,064	639,584,693	637,294,873		
6/30/2016	390,665,157	400,815,044			
6/30/2017	431,124,372				

YEAR ENDING	RATIOS			
	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
6/30/2008	1.007	0.991	1.001	0.999
6/30/2009	0.990	1.006	0.990	0.999
6/30/2010	0.984	0.999	0.997	1.000
6/30/2011	0.980	0.988	0.999	0.998
6/30/2012	0.972	0.988	1.002	0.992
6/30/2013	1.012	0.986	1.004	1.003
6/30/2014	0.995	0.993	1.003	
6/30/2015	1.008	0.996		
6/30/2016	1.026			
5 POINT AVERAGE	1.003	0.990	1.001	0.998

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.003 \times 0.990 \times 1.001 \times 0.998 = 0.992$

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	1.045	1.092	1.141	1.192	1.246	1.302	1.360	1.421	1.485	2.002
	Prot. 5-7	1.000	1.057	1.118	1.182	1.250	1.322	1.397	1.478	1.562	1.652	2.414
	Prot. 8-10	1.000	1.059	1.121	1.187	1.256	1.330	1.408	1.490	1.578	1.670	2.461

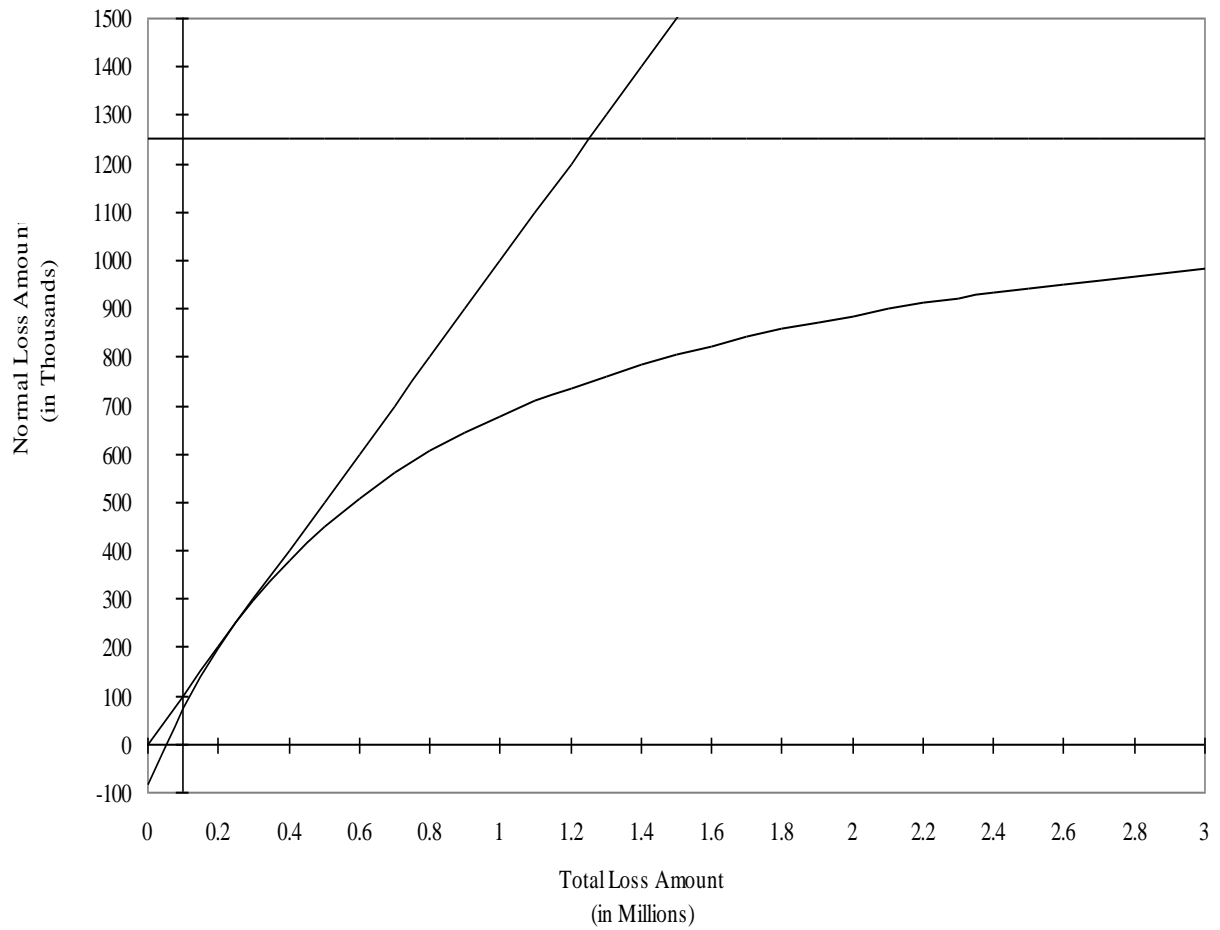
		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 4-6	Prot. 1-4	1.000	1.039	1.081	1.123	1.167	1.214	1.261	1.311	1.363	1.417	1.844
	Prot. 5-7	1.000	1.052	1.106	1.164	1.224	1.288	1.354	1.425	1.499	1.576	2.223
	Prot. 8-10	1.000	1.053	1.109	1.168	1.230	1.296	1.364	1.437	1.513	1.594	2.267

*	<u>Amount of Insurance</u>	<u>Intervals</u>
1		0-403,000
2		403,001-500,000
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)
YEAR	TRENDED INCURRED LOSSES	TRENDED NORMAL LOSSES	STATE NORMAL % (2) / (1)	MULTI- STATE NORMAL %	ADJUSTED INCURRED LOSSES	STATE AVERAGE EXCESS FACTOR (5) / (2)
2013	30,218,173	21,850,244	72.3%	70.8%	30,044,891	1.375
2014	25,167,060	19,534,921	77.6%	72.0%	27,133,831	1.389
2015	23,778,093	19,078,025	80.2%	75.0%	24,688,959	1.294
2016	17,360,094	16,206,916	93.4%	70.3%	19,630,556	1.211
2017	77,266,140	40,336,483	52.2%	73.3%	61,945,462	1.536

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		
1990	9,882,348	4,546,060	4,546,060	0.460		

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
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		
2007	29,302,842	25,547,149	14,587,652	0.498	0.321	0.053
2008	21,619,013	58,916,374	13,689,041	0.633	0.931	1.161
2009	22,104,192	18,625,728	14,952,950	0.676	0.151	0.016
2010	22,665,225	11,932,029	11,543,704	0.509	0.017	
2011	21,966,997	107,985,465	21,371,094	0.973	1.433	2.510
2012	21,886,101	48,441,738	17,866,430	0.816	0.888	0.509
2013	23,732,960	14,359,257	14,359,257	0.605		
2014	25,939,829	8,676,639	8,676,639	0.334		
2015	29,224,529	7,339,673	7,339,673	0.251		
2016	31,269,298	5,967,510	5,967,510	0.191		
2017	33,773,668	50,579,886	29,775,443	0.882	0.480	0.136
TOTALS				33.776	10.174	8.069

(7) STATE EXCESS COMPONENT = (SELR / NLR) = 0.301

(8) REGIONAL EXCESS COMPONENT = 0.080

(9) STATE EXCESS MULTIPLIER = (1 + SEC) * (1 + REC) = 1.405

NOTE: FOR YEARS PRIOR TO 2006, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 12/31. FOR YEARS 2008 TO 2017, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 06/30. THE DISPLAYED YEAR 2007 INCLUDES DATA FOR FIRST QUARTER 2006 THROUGH FIRST QUARTER 2007.

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	15,253,091	6,886,059	6,886,059	0.451	
2014	16,283,391	18,092,510	11,196,520	0.688	0.423
2015	17,942,290	27,302,900	10,536,854	0.587	0.935
2016	19,336,168	8,426,405	8,426,405	0.436	
2017	20,310,249	11,177,742	11,177,742	0.550	
TOTALS		300,769,789	240,045,557	19.571	4.422

(6) STATE EXCESS COMPONENT = (SELR / NLR) = 0.226

(7) STATE EXCESS MULTIPLIER = (1 + SEC) = 1.226

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	9.149
(1c)	FULL CREDIBILITY CLAIMS STANDARD ADJUSTED FOR SEVERITY ((1a) X (1b))	14,062
(2)	MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	329.290
(3)	FULL CREDIBILITY EARNED RISKS STANDARD (1c) X (2)	4,630,476
(4)	FIVE YEAR STATEWIDE EARNED RISKS	552,749
(5)	FIVE YEAR AGGREGATE LOSS COSTS	151,311,668
(6)	AGGREGATE LOSS COSTS PER EARNED RISK (5) / (4)	273.744
(7)	AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,267,565,022
(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	140.799
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,223,970
(4) TEN YEAR STATEWIDE EARNED RISKS	1,057,081
(5) TEN YEAR AGGREGATE LOSS COSTS	231,704,865
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	219.193
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	925,864,656
(8) STATEWIDE CREDIBILITY ((5)/(7)) ** (.5)	50.0%

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	171.876
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1) X (2)	4,296,900
(4) FIVE YEAR STATEWIDE EARNED RISKS	545,313
(5) FIVE YEAR AGGREGATE LOSS COSTS	78,441,641
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5) / (4)	143.847
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	618,096,174
(8) STATEWIDE CREDIBILITY ((5) / (7)) ** (.5)	35.6%

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)).

TENNESSEE
COMMERCIAL PROPERTY INSURANCE

SECTION D - ADDITIONAL SUPPORTING MATERIAL

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
2013	22,621,183	24,067,563	1.064
2014	23,202,914	20,459,347	0.882
2015	24,215,186	20,232,142	0.836
2016	24,452,123	15,210,334	0.622
2017	24,255,925	69,620,400	2.870

TENNESSEE
TABLE 39

BASIC GROUP II

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2008	12,324,987	58,916,374	4.780
2009	12,601,807	18,625,728	1.478
2010	12,926,256	11,932,029	0.923
2011	12,529,178	107,985,465	8.619
2012	12,476,683	48,441,738	3.883
2013	13,529,314	14,359,257	1.061
2014	14,783,853	8,676,639	0.587
2015	16,650,252	7,319,337	0.440
2016	17,805,729	5,967,510	0.335
2017	19,213,377	50,574,307	2.632

TENNESSEE
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
2013	8,686,188	6,886,059	0.793
2014	9,270,518	18,092,510	1.952
2015	10,211,958	27,302,942	2.674
2016	10,997,754	8,423,297	0.766
2017	11,538,271	11,138,375	0.965

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 2012-2016 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 several 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>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>Selected</u>
(1) Fire						
(a) Direct Losses Incurred	5,023,106	4,688,160	5,453,055	5,307,898	5,625,399	
(b) Direct Loss Adjustment Expense Incurred	483,790	467,349	541,303	522,374	538,861	
(2) Allied Lines						
(a) Direct Losses Incurred	8,611,569	4,802,876	4,490,338	4,730,020	6,303,537	
(b) Direct Loss Adjustment Expense Incurred	807,626	702,307	617,997	650,322	701,782	
(3) Loss Adjustment Expense as a Ratio to Losses						
(a) Fire (1b) / (1a)	9.6%	10.0%	9.9%	9.8%	9.6%	10.0%
(b) Allied Lines (2b) / (2a)	9.4%	14.6%	13.8%	13.7%	11.1%	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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COMMERCIAL PROPERTY INSURANCE

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>.064.069</u>	<u>.082.093</u>
A	<u>.067.076</u>	<u>.090.102</u>
AB	<u>.087.098</u>	<u>.107.121</u>
B	<u>.103.116</u>	<u>.120.135</u>

72. CAUSES OF LOSS – SPECIAL FORM

E.2. Rating Procedure – Property Damage – Other Than Builders' Risk**b.(1) Building Coverage – Loss Cost: .047.052****c.(2) Personal Property Coverage – Loss Costs**

Occupancy Category	Loss Cost
Residential Apartments and Condominiums	<u>.158.153</u>
Offices	<u>.168.166</u>
Mercantile – High	<u>.254.249</u>
Mercantile – Medium	<u>.290.282</u>
Mercantile – Low	<u>.182.187</u>
Motels and Hotels	<u>.126.129</u>
Institutional – High	<u>.090.085</u>
Institutional – Low	<u>.063.056</u>
Industrial and Processing – High	<u>.188.192</u>
Industrial and Processing – Low	<u>.150.154</u>
Service – High	<u>.174.190</u>
Service – Low	<u>.140.144</u>
Contractors	<u>.340.381</u>
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)	0.172	0.158	0.139	0.112	0.103
	Contents (2)	0.174	0.158	0.149	0.130	0.122
0075	Building (1)	0.172	0.158	0.139	0.112	0.103
	Contents (2)	0.174	0.158	0.149	0.130	0.122
0076	Building (1)	0.172	0.158	0.139	0.112	0.103
	Contents (2)	0.174	0.158	0.149	0.130	0.122
0077	Building (1)	0.158	0.142	0.127	0.101	0.095
	Contents (2)	0.164	0.149	0.140	0.124	0.114
0078	Building (1)	0.158	0.142	0.127	0.101	0.095
	Contents (2)	0.164	0.149	0.140	0.124	0.114
0079	Building (1)	0.158	0.142	0.127	0.101	0.095
	Contents (2)	0.164	0.149	0.140	0.124	0.114
0196	Building (1)	0.107	0.096	0.084	0.070	0.065
	Contents (2)	0.118	0.107	0.100	0.089	0.081
0197	Building (1)	0.107	0.096	0.084	0.070	0.065
	Contents (2)	0.118	0.107	0.100	0.089	0.081
0198	Building (1)	0.107	0.096	0.084	0.070	0.065
	Contents (2)	0.118	0.107	0.100	0.089	0.081
0311	Building (1)	0.258	0.233	0.207	0.168	0.154
	Contents (2)	0.292	0.263	0.247	0.219	0.205
0312	Building (1)	0.258	0.233	0.207	0.168	0.154
	Contents (2)	0.292	0.263	0.247	0.219	0.205
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.258	0.233	0.207	0.168	0.154
	Contents (2)	0.292	0.263	0.247	0.219	0.205
0321	Building (1)	0.399	0.360	0.318	0.258	0.238
	Contents (2)					
	A	0.592	0.533	0.505	0.444	0.412
	B&C	0.692	0.624	0.589	0.520	0.486
0322	Building (1)	0.399	0.360	0.318	0.258	0.238
	Contents (2)					
	A	0.592	0.533	0.505	0.444	0.412
	B&C	0.692	0.624	0.589	0.520	0.486
0323	Building (1)	0.399	0.360	0.318	0.258	0.238
	Contents (2)					
	A	0.592	0.533	0.505	0.444	0.412
	B&C	0.692	0.624	0.589	0.520	0.486
0331	Building (1)	0.144	0.130	0.116	0.092	0.088
	Contents (2)	0.126	0.114	0.107	0.096	0.088
0332	Building (1)	0.144	0.130	0.116	0.092	0.088
	Contents (2)	0.126	0.114	0.107	0.096	0.088
0333	Building (1)	0.144	0.130	0.116	0.092	0.088
	Contents (2)	0.126	0.114	0.107	0.096	0.088
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.225	0.202	0.181	0.148	0.133
	Contents (2)					
	A	0.255	0.230	0.219	0.190	0.179
	B&C	0.301	0.269	0.255	0.225	0.208
0342	Building (1)	0.225	0.202	0.181	0.148	0.133
	Contents (2)					
	A	0.255	0.230	0.219	0.190	0.179
	B&C	0.301	0.269	0.255	0.225	0.208
0343	Building (1)	0.225	0.202	0.181	0.148	0.133
	Contents (2)					
	A	0.255	0.230	0.219	0.190	0.179
	B&C	0.301	0.269	0.255	0.225	0.208
0511	Building (1)	0.113	0.103	0.091	0.073	0.069
	Contents (2)	0.165	0.148	0.140	0.124	0.116
0512	Building (1)	0.109	0.098	0.087	0.069	0.064
	Contents (2)	0.148	0.132	0.126	0.109	0.103
0520	Building (1)	0.134	0.122	0.109	0.088	0.081
	Contents (2)	0.215	0.192	0.183	0.161	0.150
0531	Building (1)	0.115	0.103	0.093	0.075	0.069
	Contents (2)	0.173	0.156	0.148	0.130	0.122
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.174	0.158	0.140	0.113	0.105
	Contents (2)	0.215	0.192	0.183	0.161	0.150
0533	Building (1)	0.136	0.124	0.110	0.089	0.084
	Contents (2)	0.172	0.155	0.145	0.129	0.120
0534	Building (1)	0.191	0.172	0.153	0.126	0.116
	Contents (2)	0.179	0.161	0.152	0.135	0.127
0541	Building (1)	0.363	0.328	0.292	0.237	0.220
	Contents (2)	0.391	0.351	0.332	0.292	0.273
0545	Building (1)	0.430	0.386	0.344	0.279	0.259
	Contents (2)	0.486	0.436	0.413	0.363	0.338
0550	Building (1)	0.103	0.094	0.084	0.068	0.062
	Contents (2)	0.178	0.161	0.151	0.133	0.126
0561	Building (1)	0.109	0.098	0.088	0.069	0.066
	Contents (2)	0.178	0.161	0.151	0.133	0.126
0562	Building (1)	0.124	0.111	0.100	0.081	0.075
	Contents (2)	0.197	0.178	0.167	0.148	0.137
0563	Building (1)	0.123	0.110	0.098	0.080	0.073
	Contents (2)	0.148	0.132	0.126	0.109	0.103
0564	Building (1)	0.168	0.152	0.134	0.110	0.102
	Contents (2)	0.258	0.233	0.220	0.193	0.181
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.112	0.102	0.090	0.073	0.068
	Contents (2)	0.144	0.129	0.122	0.109	0.102
0566	Building (1)	0.127	0.115	0.103	0.084	0.077
	Contents (2)	0.193	0.175	0.165	0.145	0.136
0567	Building (1)	0.113	0.103	0.091	0.073	0.069
	Contents (2)	0.165	0.148	0.140	0.124	0.116
0570	Building (1)	0.113	0.103	0.091	0.073	0.069
	Contents (2)	0.173	0.156	0.148	0.130	0.122
0580	Building (1)	0.113	0.103	0.091	0.073	0.069
	Contents (2)	0.181	0.163	0.155	0.136	0.129
0581	Building (1)	0.121	0.109	0.096	0.078	0.073
	Contents (2)					
	A	0.173	0.156	0.148	0.130	0.122
	B	0.211	0.190	0.179	0.159	0.148
0582	Building (1)	0.133	0.119	0.107	0.088	0.080
	Contents (2)					
	A	0.155	0.140	0.132	0.116	0.109
	B	0.190	0.170	0.161	0.142	0.132
	C	0.172	0.155	0.145	0.129	0.120
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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	0.076	0.068	0.064	0.057	0.054
	B	0.113	0.103	0.094	0.085	0.078
0702	Building (1)	0.113	0.103	0.093	0.075	0.069
	Contents (2)					
	A	0.136	0.123	0.114	0.102	0.096
	B	0.189	0.170	0.161	0.141	0.132
0742	Building (1)	0.810	0.730	0.650	0.529	0.490
	Contents (2)	0.895	0.805	0.760	0.670	0.627
0743	Building (1)	0.810	0.730	0.650	0.529	0.490
	Contents (2)	0.895	0.805	0.760	0.670	0.627
0744	Building (1)	0.810	0.730	0.650	0.529	0.490
	Contents (2)	0.895	0.805	0.760	0.670	0.627
0745	Building (1)	0.351	0.317	0.282	0.229	0.211
	Contents (2)	0.383	0.344	0.326	0.288	0.267
0746	Building (1)	0.351	0.317	0.282	0.229	0.211
	Contents (2)	0.383	0.344	0.326	0.288	0.267
0747	Building (1)	0.351	0.317	0.282	0.229	0.211
	Contents (2)	0.383	0.344	0.326	0.288	0.267
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.327	0.293	0.262	0.214	0.198
	Contents (2)	0.376	0.339	0.321	0.282	0.263
0756	Building (1)	0.133	0.120	0.106	0.087	0.080
	Contents (2)	0.152	0.136	0.129	0.114	0.106
0757	Building (1)	0.143	0.129	0.114	0.094	0.087
	Contents (2)	0.152	0.136	0.129	0.114	0.106
0831	Building (1)	0.112	0.101	0.090	0.074	0.067
	Contents (2)	0.129	0.115	0.110	0.097	0.090
0832	Building (1)	0.142	0.128	0.114	0.094	0.086
	Contents (2)	0.152	0.136	0.129	0.114	0.106
0833	Building (1)	0.120	0.110	0.097	0.078	0.074
	Contents (2)	0.139	0.127	0.120	0.106	0.098
0834	Building (1)	0.194	0.174	0.156	0.127	0.117
	Contents (2)	0.198	0.177	0.168	0.149	0.138
0841	Building (1)	0.198	0.177	0.158	0.129	0.119
	Contents (2)	0.206	0.185	0.175	0.154	0.144
0843	Building (1)	0.098	0.090	0.078	0.065	0.058
	Contents (2)	0.105	0.095	0.090	0.078	0.074
0844	Building (1)	0.133	0.120	0.106	0.087	0.080
	Contents (2)	0.146	0.130	0.125	0.110	0.101
0845	Building (1)	0.089	0.078	0.071	0.057	0.052
	Contents (2)	0.101	0.090	0.087	0.076	0.071
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.182	0.164	0.146	0.120	0.110
	Contents (2)	0.180	0.161	0.154	0.136	0.127
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)	0.098	0.087	0.078	0.064	0.059
	Contents (2)	0.104	0.093	0.087	0.077	0.073
0911	Building (1)	0.238	0.214	0.190	0.154	0.143
	Contents (2)	0.282	0.253	0.238	0.211	0.199
0912	Building (1)	0.314	0.284	0.252	0.204	0.188
	Contents (2)	0.388	0.349	0.330	0.290	0.271
0913	Building (1)	0.206	0.185	0.165	0.135	0.122
	Contents (2)	0.244	0.218	0.205	0.182	0.170
0921	Building (1)	0.122	0.111	0.099	0.080	0.073
	Contents (2)	0.147	0.132	0.124	0.110	0.104
0922	Building (1)	0.137	0.122	0.110	0.090	0.082
	Contents (2)	0.168	0.150	0.143	0.127	0.117
0923	Building (1)	0.092	0.082	0.073	0.059	0.056
	Contents (2)	0.098	0.090	0.083	0.073	0.068
0931	Building (1)	0.104	0.092	0.082	0.068	0.061
	Contents (2)	0.120	0.107	0.104	0.090	0.084
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.146	0.133	0.117	0.095	0.088
	Contents (2)	0.179	0.160	0.150	0.134	0.123
0933	Building (1)	0.123	0.111	0.100	0.080	0.075
	Contents (2)	0.155	0.141	0.133	0.117	0.109
0934	Building (1)	0.160	0.145	0.129	0.106	0.097
	Contents (2)	0.191	0.172	0.161	0.143	0.134
0940	Building (1)	0.078	0.070	0.063	0.051	0.047
	Contents (2)	0.097	0.086	0.082	0.073	0.068
0951	Building (1)	0.380	0.342	0.304	0.248	0.229
	Contents (2)	0.420	0.379	0.358	0.317	0.294
0952	Building (1)	0.129	0.115	0.104	0.084	0.077
	Contents (2)	0.184	0.166	0.157	0.138	0.129
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)	0.100	0.089	0.079	0.065	0.060
	Contents (2)	0.114	0.101	0.095	0.086	0.079
1070	Building (1)	0.064	0.059	0.052	0.042	0.040
	Contents (2)	0.076	0.070	0.065	0.057	0.055
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.109	0.097	0.087	0.071	0.067
1211	Building (1)	0.199	0.180	0.160	0.129	0.119
	Contents (2)	0.233	0.211	0.199	0.175	0.165
1212	Building (1)	0.159	0.142	0.126	0.103	0.096
	Contents (2)	0.194	0.174	0.165	0.146	0.135
1213	Building (1)	0.138	0.126	0.111	0.092	0.084
	Contents (2)	0.185	0.167	0.159	0.138	0.129
1220	Building (1)	0.167	0.151	0.133	0.108	0.101
	Contents (2)	0.201	0.183	0.173	0.153	0.142
1230	Building (1)	0.143	0.129	0.116	0.094	0.087
	Contents (2)	0.197	0.177	0.167	0.148	0.136
1400	Building (1)	0.430	0.388	0.345	0.279	0.257
	Contents (2)	0.523	0.471	0.445	0.393	0.365
	Yard	0.649		0.067		
1650	Building (1)	0.257	0.230	0.207	0.167	0.154
	Contents (2)	0.326	0.292	0.277	0.244	0.229
	Yard	0.180		0.023		
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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)	0.210	0.187	0.168	0.136	0.126
	Contents (2)	0.320	0.286	0.271	0.239	0.224
	Yard	0.175		0.022		
1751	Building (1)	0.134	0.120	0.108	0.087	0.081
	Contents (2)	0.175	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)	0.477	0.430	0.384	0.312	0.286
	Contents (2)	0.567	0.510	0.480	0.425	0.399
2350	Building (1)	0.306	0.275	0.246	0.199	0.184
	Contents (2)	0.363	0.327	0.306	0.271	0.256
2459	Building (1)	0.199	0.178	0.158	0.129	0.117
	Contents (2)	0.256	0.231	0.220	0.194	0.178
2800	Building (1)	1.090	0.985	0.882	0.713	0.662
	Contents (2)	1.440	1.296	1.218	1.077	1.011
3409	Building (1)	0.346	0.311	0.278	0.226	0.205
	Contents (2)	0.401	0.361	0.340	0.300	0.280
4809	Building (1)	0.264	0.238	0.213	0.172	0.159
	Contents (2)	0.324	0.291	0.275	0.242	0.228
Territory					Territorial Multiplier	
Memphis					1.337	
Nashville USD					1.054	
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
INDICATIONS

The indicated statewide monoline changes are:

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>
Basic Group I	+6.7%	-2.1%
Basic Group II	+12.9%	+3.1%
Special Causes of Loss	+7.2%	+0.1%
All Coverages Combined	+8.9%	+0.1%

The prior review's indications were not filed. 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	+11.4%
02 Apartment and Condominium Contents	-3.3%
03 Office Contents	+2.0%
04 Mercantile, Motel-Hotel, and Institutional Contents	-0.9%
05 Service, Industrial-Processing and Contractors Contents	+4.3%
Personal Property (Contents) Excluding Theft	+1.1%

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 Const.
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	+2.5%	+2.8%	-0.3%
Contents	+1.2%	+0.8%	+0.4%
Time Element	-0.1%	-1.0%	+0.9%

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	-0.4%	+0.5%	+2.5%	-0.7%	+0.4%	+1.9%
Basic Group II	+0.5%	+0.8%	+2.2%	+0.5%	+0.5%	+1.5%
Special Causes of Loss	+0.3%	+0.5%	+2.5%	+0.3%	+0.9%	+1.9%

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	+2.1%	+1.7%	+2.4%	+2.1%	+1.2%	+0.9%
Basic Group II	+3.0%	+2.0%	+2.8%	+3.3%	+1.3%	+0.5%
Special Causes of Loss	+2.8%	+1.7%	+2.4%	+3.1%	+1.7%	+0.9%

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	+1.8%
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	+2.0%	+2.2%	-0.2%
Contents	+1.7%	+1.9%	-0.2%
Time Element	+1.0%	+1.2%	-0.2%

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	+0.2%	-0.3%	+0.5%
Basic Group II	+0.8%	+0.5%	+0.3%
Special Causes of Loss	+0.5%	+0.3%	+0.2%

BASIC GROUP I

The statewide five-year weighted average experience ratio, before credibility weighting, increased by 54.5%, from 0.791 in the prior review to 1.222 in the current review. The increase was due a higher-than-average experience ratio of 2.186 for 2017 entering the experience period, a 2.2% increase in average loss trend factors, and a 4.4% decrease in average Implicit Package Modification Factors (IPMFs). The monoline relativity decreased by 6.6%. The decrease was due to better monoline experience relative to multiline for 2017 entering the experience period.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.222	0.791	1.545
Credibility	0.346	0.354	0.977
Expected Experience Ratio	1.002	0.997	1.005
Coverage Change	1.078	0.924	1.167
Monoline Relativity	0.990	1.060	0.934
Monoline Change	1.067	0.979	1.090

BASIC GROUP II

The statewide ten-year average experience ratio, before credibility weighting, increased by 26.4%, from 1.000 in the prior review to 1.264 in the current review. The increase was due to a higher-than-average experience ratio of 2.603 for 2017 entering the experience ratio, a lower-than-average experience ratio of 0.484 for 2007 leaving the experience ratio, and a 1.8% decrease in average Implicit Package Modification Factors (IPMFs). The monoline relativity decreased by 3.3%.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.264	1.000	1.264
Credibility	0.500	0.487	1.027
Expected Experience Ratio	1.008	1.005	1.003
Coverage Change	1.136	1.003	1.133
Monoline Relativity	0.9938	1.0276	0.967
Monoline Change	1.129	1.031	1.095

**SPECIAL CAUSES
OF LOSS**

The statewide five-year weighted average experience ratio, before credibility weighting, increased by 2.8%, from 0.969 in the prior review to 0.996 in the current review. The increase was due to a higher-than-average experience ratio of 1.109 for 2017 entering the experience period. The monoline relativity increased by 5.8%. The increase was due to better multiline experience relative to monoline for 2017 entering the experience period

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.996	0.969	1.028
Credibility	0.356	0.375	0.949
Expected Experience Ratio	1.005	1.003	1.002
Coverage Change	1.002	0.990	1.012
Monoline Relativity	1.070	1.011	1.058
Monoline Change	1.072	1.001	1.071

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 12/31/2017.

<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

PROPERTY

Date From Date To Perils

CLAIMS SERVICES	10/23/01	10/24/01	Hail, Wind, Flooding, Tornadoes
INFORMATION	4/27/02	5/3/02	Flooding, Hail, Tornadoes, Wind
(cont'd)	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
	1/29/08	1/30/08	Hail, Tornadoes, Wind
	2/5/08	2/6/08	Flooding, Hail, Tornadoes, Wind
	2/10/09	2/13/09	Flooding, Hail, Tornadoes, Wind
	4/9/09	4/11/09	Flooding, Hail, Tornadoes, Wind
	5/7/09	5/9/09	Flooding, Hail, Tornadoes, Wind
	6/10/09	6/18/09	Flooding, Hail, Tornadoes, Wind
	4/23/10	4/25/10	Hail, Tornadoes, Wind
	4/30/10	5/3/10	Flooding, Hail, Tornadoes, Wind
	2/24/11	2/25/11	Flooding, Hail, Tornadoes, Wind
	2/27/11	2/28/11	Flooding, Hail, Tornadoes, Wind
	4/3/11	4/5/11	Flooding, Hail, Tornadoes, Wind
	4/8/11	4/11/11	Flooding, Hail, Tornadoes, Wind
	4/19/11	4/21/11	Hail, Tornadoes, Wind
	4/22/11	4/28/11	Flooding, Hail, Tornadoes, Wind
	5/20/11	5/27/11	Flooding, Hail, Tornadoes, Wind
	6/16/11	6/22/11	Flooding, Hail, Tornadoes, Wind
	9/3/11	9/9/11	Flooding, Tornadoes, Wind
	3/2/12	3/3/12	Flooding, Hail, Tornadoes, Wind
	1/29/13	1/31/13	Flooding, Tornadoes, Wind
	3/18/13	3/19/13	Hail, Tornadoes, Wind
	1/5/14	1/8/14	Freezing, Ice, Snow, Wind
	4/27/14	5/1/14	Flooding, Hail, Tornadoes, Wind
	7/26/14	7/28/14	Flooding, Hail, Tornadoes, Wind
	2/16/15	2/17/15	Freezing, Ice, Snow, Wind
	2/16/15	2/22/15	Freezing, Ice, Snow, Wind
	3/31/15	4/1/15	Flooding, Hail, Wind
	4/7/15	4/10/15	Flooding, Hail, Tornadoes, Wind

PROPERTY CLAIMS SERVICES INFORMATION (cont'd)	<u>Date From</u>	<u>Date To</u>	<u>Perils</u>
	4/18/15	4/21/15	Flooding, Hail, Tornadoes, Wind
	7/12/15	7/14/15	Flooding, Hail, Tornadoes, Wind
	4/18/15	4/21/15	Flooding, Hail, Tornadoes, Wind
	7/12/15	7/14/15	Flooding, Hail, Tornadoes, Wind
	12/23/15	12/24/15	Flooding, Hail, Tornadoes, Wind
	1/22/16	1/24/16	Flooding, Freezing, Ice, Snow, Wind
	3/5/16	3/11/16	Flooding, Hail, Tornadoes, Wind
	5/7/16	5/10/16	Flooding, Hail, Tornadoes, Wind
	7/5/16	7/7/16	Flooding, Hail, Tornadoes, Wind
	7/7/16	7/9/16	Flooding, Hail, Wind
	11/28/16	11/28/16	Fire
	11/28/16	12/1/16	Flooding, Hail, Tornadoes, Wind
	2/28/17	3/2/17	Flooding, Hail, Tornadoes, Wind
	3/21/17	3/22/17	Flooding, Hail, Wind
	3/26/17	3/28/17	Hail, Tornadoes, Wind
	4/4/17	4/6/17	Flooding, Hail, Tornadoes, Wind
	4/21/17	4/25/17	Flooding, Hail, Tornadoes, Wind
	4/28/17	5/1/17	Flooding, Hail, Tornadoes, Wind
	5/27/17	5/28/17	Flooding, Hail, Tornadoes, Wind
	8/25/17	9/1/17	Flooding, Hail, Hurricane, Tornadoes, Tropical Storm, Wind
	10/7/17	10/9/17	Flooding, Hurricane, Tornadoes, Tropical Storm, Wind

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.