

LOSS COSTS – INFORMATION

JULY 20, 2018

COMMERCIAL PROPERTY

LI-CF-2018-081

## KENTUCKY COMMERCIAL FIRE AND ALLIED LINES LOSS COST LEVEL ANALYSIS FURNISHED FOR INFORMATION

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### KEY MESSAGE

This analysis is provided for your information. We are NOT revising the current loss costs based on this analysis.

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### BACKGROUND

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

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### ISO ACTION

We are NOT implementing any changes, at this time, to the current Commercial Fire and Allied Lines advisory prospective loss costs for this jurisdiction.

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### SUPPLEMENTARY INFORMATION

We are including the following supplementary information:

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

NOTE: This supplementary information is not part of the loss cost level analysis.

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### COMPANY ACTION

You may wish to evaluate your rate level needs.

Some calculations included in the attached analysis involve areas of ISO staff judgment. You should carefully review and evaluate your own experience in order to determine whether the indications are appropriate for your use.

If you decide to independently file a rate or loss cost revision based on this analysis, you must:

- Comply with the applicable regulatory filing requirements; and
- Advise your production forces about implementation of your revised rates or loss cost adjustments.

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### REFERENCE(S)

[LI-CF-2018-076](#) (06/13/2018) Commercial Fire And Allied Lines Experience Level Indications Reviewed By ISO Staff

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## ATTACHMENT(S)

- Loss Cost Level Analysis
- Actuarial Analysis Supplement
- Excel Workbook

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## FILES AVAILABLE FOR DOWNLOAD

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

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

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## 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 document a Statement of Actuarial Opinion therefore we are including the following acknowledgment:

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

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**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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## KENTUCKY

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

#### PURPOSE

This document:

- provides advisory prospective loss cost information for both class-rated and specifically-rated properties. The indicated loss cost level represents a -0.9% statewide change from the current ISO level.
- provides the analyses used to derive the prospective loss costs based on experience through calendar/accident year ending 6/30/2017, evaluated as of 9/30/2017.
- 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 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	Indicated
Basic Group I	-3.7%
Basic Group II	+2.8%
Special Causes of Loss	-0.8%
Total	-0.9%

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

PRIOR ISO  
REVISIONS

The latest revisions in this state are:

<u>Reference Document or Filing</u>	CF-2016-RLA1	CF-2015-RLA1
<u>Rates/ Loss Costs</u>	Loss Costs	Loss Costs
<u>Dates Implemented</u>	04/01/2017	02/01/2016
<u>Changes</u>		
Basic Group I	-0.8%	0.0%
Basic Group II	+4.8%	+8.6%
Special Causes of Loss	+10.0%	+9.7%
Total	+3.4%	+4.3%

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HISTORICAL  
SOURCE DATA

The data used in this review is:

- Voluntary experience for ISO reporting companies.
  - Five calendar/accident years ending 6/30/2017 for Basic Group I and Special Causes of Loss.
  - Ten calendar/accident years ending 6/30/2017 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, 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.

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TREND AND  
OTHER  
ADJUSTMENTS

Loss Trend

For trend purposes, the period of use for this review 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	2.5%
Contents	1.2%
Time Element	-0.1%

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%	2.1%
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	1.0%

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.

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TEN LARGEST  
COMPANY  
GROUPS IN  
ISO DATA BASE

COMMERCIAL MULTIPERIL - NON-LIABILITY (ASLOB 51)

1. Cincinnati Insurance Company
2. Travelers Indemnity Company
3. Liberty Mutual Insurance Company
4. Westfield Insurance Company
5. Motorists Mutual Insurance Company
6. Tokio Marine Companies
7. Nationwide Mutual Insurance Company
8. State Auto Mutual Insurance Company
9. Acuity, A Mutual Insurance Company
10. Hartford Accident and Indemnity 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.

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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) - 38.3%

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COMPANY  
DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the 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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# KENTUCKY COMMERCIAL PROPERTY INSURANCE

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# KENTUCKY

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

COVERAGE	INDICATIONS	AGGREGATE LOSS COSTS AT CURRENT LEVEL
BASIC GROUP I	-3.7%	27,302,914
TERRITORY 01	+8.4%	
TERRITORY 02	+6.2%	
TERRITORY 08	-6.1%	
BASIC GROUP II	+2.8%	20,157,410
SPECIAL CAUSES OF LOSS	-0.8%	14,278,400
ALL COVERAGES COMBINED	-0.9%	61,738,724

## TERRITORY DEFINITIONS

01 Louisville  
02 Lexington-Fayette  
08 Balance of State

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

KENTUCKY

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

RATING GROUP DESCRIPTION	Louisville	Lexington-Fayette
	INDICATED	INDICATED
01 APARTMENTS	+9.2%	+7.4%
02 OTHER HABITATIONAL	+7.8%	+6.0%
03 RESTAURANTS & BARS	+12.6%	+10.8%
04 OTHER MERCANTILE RISKS	+12.1%	+10.2%
05 PUBLIC BUILDINGS	+5.7%	+4.0%
06 CHURCHES	+0.7%	-0.9%
07 SCHOOLS	-1.3%	-2.8%
08 OFFICES AND BANKS	+3.8%	+2.1%
09 RECREATIONAL FACILITIES	+8.6%	+6.9%
10 HOTELS & MOTELS	+6.4%	+4.7%
11 HOSPITALS & NURSING HOMES	+6.2%	+4.4%
12 BLDGS UNDER CONSTRUCTION	+7.3%	+5.6%
13 MOTOR VEHICLE RISKS	+9.7%	+7.9%
14 OTHER NON-MANUFACTURING	+7.3%	+5.6%
15 STORAGE	+9.9%	+8.1%
17 FOOD MANUFACTURING	+6.4%	+4.7%
18 WOOD MANUFACTURING	+5.8%	+4.1%
19 WEARING APPAREL	+3.9%	+2.2%
20 CHEMICAL MANUFACTURING	+6.6%	+4.9%
21 METAL MANUFACTURING	+2.3%	+0.6%
22 OTHER MANUFACTURING	+3.9%	+2.2%
TOTAL	+8.4%	+6.2%

(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.

KENTUCKY

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

RATING GROUP DESCRIPTION	Balance of State (Kentucky)
-----	
	INDICATED
01 APARTMENTS	-4.4%
02 OTHER HABITATIONAL	-5.6%
03 RESTAURANTS & BARS	-1.3%
04 OTHER MERCANTILE RISKS	-1.8%
05 PUBLIC BUILDINGS	-7.4%
06 CHURCHES	-11.8%
07 SCHOOLS	-13.5%
08 OFFICES AND BANKS	-9.1%
09 RECREATIONAL FACILITIES	-4.8%
10 HOTELS & MOTELS	-6.8%
11 HOSPITALS & NURSING HOMES	-7.0%
12 BLDGS UNDER CONSTRUCTION	-6.0%
13 MOTOR VEHICLE RISKS	-3.9%
14 OTHER NON-MANUFACTURING	-6.0%
15 STORAGE	-3.7%
17 FOOD MANUFACTURING	-6.8%
18 WOOD MANUFACTURING	-7.3%
19 WEARING APPAREL	-9.0%
20 CHEMICAL MANUFACTURING	-6.6%
21 METAL MANUFACTURING	-10.4%
22 OTHER MANUFACTURING	-9.0%
TOTAL	-6.1%

(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.

KENTUCKY

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

CATEGORY DESCRIPTION	ENTIRE STATE
-----	-----
01 BUILDINGS	-4.1%
02 RES. APTS. AND CONDOS	-9.4%
03 OFFICES	+13.0%
04 MERCANTILE - HIGH	+3.4%
05 MERCANTILE - MEDIUM	+2.4%
06 MERCANTILE - LOW	-2.9%
07 MOTELS AND HOTELS	-0.5%
08 INSTITUTIONAL - HIGH	+23.7%
09 INSTITUTIONAL - LOW	-4.9%
10 INDUST-PROC - HIGH	+0.2%
11 INDUST-PROC - LOW	-5.9%
12 SERVICE - HIGH	-7.0%
13 SERVICE - LOW	-3.8%
14 CONTRACTORS	+4.6%
STATEWIDE TOTAL	-0.8%

KENTUCKY  
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	-5.2%	+2.8%	-3.4%
32	APARTMENT	-0.7%	+2.8%	-4.7%
33	OFFICE	-5.8%	+2.8%	+1.2%
34	MERCANTILE	+0.3%	+2.8%	-1.9%
35	INSTITUTIONAL	-10.8%	+2.8%	+6.2%
36	SERVICES	-2.6%	+2.8%	-4.6%
37	INDUST/PROCESSING	-6.4%	+2.8%	-4.4%
38	CONTRACTORS	-1.0%	+2.8%	+0.5%

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.



KENTUCKY  
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.

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### 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".

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### 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.

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### 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.

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

OBJECTIVE	<p>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?</p>
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	<p>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.</p>

KENTUCKY  
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	30,067,603	17,104,643	0.569	0.10
2014	28,231,317	19,358,248	0.686	0.15
2015	28,278,713	20,117,507	0.711	0.20
2016	27,646,427	15,919,082	0.576	0.25
2017	27,302,914	25,120,061	0.920	0.30

(6) WEIGHTED EXPERIENCE RATIO	= 0.722
(7) CREDIBILITY	= 0.332
(8) EXPECTED EXPERIENCE RATIO	= 1.002
(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO (0.332 X 0.722 ) + (0.668 X 1.002 )	= 0.909
(10) INDICATED COVERAGE LOSS COST CHANGE	= 0.909
	OR -9.1%

\* 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.

KENTUCKY  
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	20,665,665	29,491,527	1.427
2009	22,004,576	29,839,826	1.356
2010	23,265,508	12,161,739	0.523
2011	21,793,850	24,547,671	1.126
2012	21,408,906	24,447,631	1.142
2013	20,627,911	15,952,861	0.773
2014	20,848,696	13,807,011	0.662
2015	20,826,404	20,601,022	0.989
2016	19,869,006	18,235,029	0.918
2017	20,157,410	28,951,731	1.436

(5) WEIGHTED EXPERIENCE RATIO (EQUAL WEIGHTS) = 1.036

(6) CREDIBILITY = 0.480

(7) EXPECTED EXPERIENCE RATIO = 1.008

(8) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 1.021  
(0.480 x 1.036 ) + (0.520 x 1.008 )

(9) INDICATED COVERAGE LOSS COST CHANGE = 1.021

OR +2.1%

\* 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.

KENTUCKY  
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	15,759,246	12,701,341	0.806	0.10
2014	15,643,985	18,174,846	1.162	0.15
2015	15,336,027	26,221,039	1.710	0.20
2016	14,705,365	9,657,457	0.657	0.25
2017	14,278,400	10,431,077	0.731	0.30

(6) WEIGHTED EXPERIENCE RATIO = 0.980

(7) CREDIBILITY = 0.337

(8) EXPECTED EXPERIENCE RATIO = 1.005

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 0.997  
(0.337 X 0.980 ) + (0.663 X 1.005 )

(10) INDICATED COVERAGE LOSS COST CHANGE = 0.997

OR -0.3%

\* 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.

KENTUCKY

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 0.909 OR -9.1%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	

10	1.588	0.108	1.051	1.059
31	1.348	0.035	1.011	1.018
32	0.929	0.151	0.989	0.996
33	1.091	0.057	1.005	1.012
34	0.850	0.264	0.958	0.965
35	1.222	0.221	1.045	1.053
36	0.753	0.157	0.956	0.963
37	1.042	0.106	1.004	1.012
38	0.608	0.069	0.966	0.973

RATING GROUP					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.085	0.245	1.020	1.017	+0.0
02	1.058	0.134	1.008	1.004	-2.5
03	1.430	0.144	1.053	1.049	+1.7
04	1.102	0.483	1.048	1.044	+0.5
05	0.725	0.037	0.988	0.985	-6.8
06	0.765	0.224	0.942	0.938	-10.7
07	0.722	0.245	0.923	0.920	-12.5
08	0.888	0.256	0.970	0.967	-6.4
09	1.169	0.102	1.016	1.012	-2.9
10	0.934	0.087	0.994	0.991	-5.3
11	0.749	0.026	0.993	0.989	-5.0
13	1.155	0.173	1.025	1.022	-2.0
14	1.029	0.117	1.003	1.000	-4.2
15	1.285	0.109	1.028	1.024	-2.0
17	0.824	0.026	0.995	0.991	-5.1
18	0.743	0.036	0.989	0.986	-6.1
20	0.663	0.008	0.997	0.993	-4.5
21	0.652	0.104	0.956	0.953	-9.0
22	0.657	0.068	0.972	0.968	-6.9

STATEWIDE MONOLINE LOSS COST LEVEL CHANGE -3.7%

KENTUCKY

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)
TERRITORY	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY
Louisville	1.385	0.213	1.072	1.115
Lexington-Fayette	1.444	0.146	1.055	1.097
Balance of State (Kentucky)	0.913	0.681	0.940	0.977

	(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
TERRITORY	
Louisville	+8.4
Lexington-Fayette	+6.2
Balance of State (Kentucky)	-6.1

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

KENTUCKY

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

EXAMPLE OF AN INDIVIDUAL LOSS COST CHANGE CALCULATION  
FOR Louisville

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	-9.1%
TERRITORIAL RELATIVITY	=	1.115
MONOLINE (TOP 10) RELATIVITY	=	1.059
RATING GROUP 01 RELATIVITY	=	1.017

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR RATING GROUP 01

$$\begin{aligned} &= 0.909 \quad \times \quad 1.115 \quad \times \quad 1.059 \quad \times \quad 1.017 \quad = 1.092 \\ &\qquad\qquad\qquad \text{OR} \quad +9.2\% \end{aligned}$$



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TABLE 8 - CALCULATION OF INDICATED TERRITORIAL MULTIPLIERS

(1)	(2)	(3)	(4)
TERRITORY	TERRITORY RELATIVITY	OFF- BALANCE FACTOR	CURRENT TERRITORIAL MULTIPLIER
-----			
Louisville	1.115	1.000	0.685
Lexington-Fayette	1.097	1.000	0.750
Balance of State (Kentucky)	0.977	1.000	1.000

	(5)
	INDICATED TERRITORIAL MULTIPLIER
	((2)X(3)X(4) / (0.977 X 1.000 ))
TERRITORY	
-----	
Louisville	0.782
Lexington-Fayette	0.842
Balance of State (Kentucky)	1.000

KENTUCKY

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 0.997 OR -0.3%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
10	0.895	0.149	0.984	0.996	
31	1.449	0.049	1.018	1.032	
32	0.542	0.195	0.887	0.899	
33	0.734	0.104	0.968	0.981	
34	0.681	0.308	0.888	0.900	
35	1.472	0.253	1.103	1.117	
36	1.613	0.223	1.113	1.127	
37	1.002	0.111	1.000	1.013	
38	0.823	0.102	0.980	0.993	
					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
CATEGORY					
01	0.922	0.755	0.941	0.966	-4.1
02	0.258	0.088	0.888	0.912	-9.4
03	2.399	0.117	1.108	1.138	+13.0
04	1.063	0.216	1.013	1.041	+3.4
05	1.023	0.165	1.004	1.031	+2.4
06	0.524	0.076	0.952	0.978	-2.9
07	0.405	0.028	0.975	1.002	-0.5
08	1.941	0.290	1.212	1.246	+23.7
09	0.518	0.107	0.932	0.958	-4.9
10	0.527	0.028	0.982	1.009	+0.2
11	0.524	0.125	0.922	0.948	-5.9
12	0.584	0.172	0.912	0.937	-7.0
13	0.544	0.097	0.943	0.969	-3.8
14	1.230	0.118	1.025	1.053	+4.6
OVERALL MONOLINE LOSS COST LEVEL CHANGE					-0.8%

KENTUCKY

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

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EXAMPLE OF A LOSS COST CHANGE CALCULATION

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	-0.3%
MONOLINE (TOP 10) RELATIVITY	=	0.996
CATEGORY 01 RELATIVITY	=	0.966

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR CATEGORY 01

= 0.997	X	0.996	X	0.966	=	0.959
					OR	-4.1%

## 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.



Louisville

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KENTUCKY

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	1,815	120,436	2.735	1.190	1.792
	02 OTHER HABITATIONAL	9,164	120,724	2.102	1.060	1.596
	03 RESTAURANTS & BARS	4,126	19,649	0.000	0.657	0.989
	04 OTHER MERCANTILE RS	44,689	317,644	0.324	0.661	0.995
	05 PUBLIC BUILDINGS	371	2,733	0.000	0.663	0.998
	06 CHURCHES	2,853	17,344	2.254	1.031	1.553
	07 SCHOOLS	552	5,766	0.000	0.662	0.997
	08 OFFICES AND BANKS	24,181	160,815	0.604	0.747	1.125
	09 REC. FACILITIES	8,505	75,927	0.060	0.650	0.979
	10 HOTELS AND MOTELS	715	6,184	0.000	0.662	0.997
	11 HOSPITALS/NURS HOME	852	3,556	0.000	0.663	0.998
	13 MOTOR VEHICLE RISKS	6,153	51,463	0.000	0.647	0.974
	14 OTHER NON-MANUF.	6,577	44,880	0.088	0.665	1.002
	15 STORAGE	8,692	58,033	0.206	0.682	1.027
	17 FOOD MANUFACTURING	91	1,056	0.000	0.663	0.998
	18 WOOD MANUFACTURING	3,884	3,994	0.000	0.662	0.997
	20 CHEM. MANUFACTURING	63	87	0.000	0.664	1.000
	21 METAL MANUFACTURING	4,333	45,735	0.000	0.649	0.977
	22 OTHER MANUFACTURING	2,558	13,282	0.000	0.659	0.992
	TOTAL*	130,174	1,069,308	0.481	0.720	1.085
31 MULTILINE	10 HOTELS AND MOTELS	44,845	248,660	1.249	1.052	1.584
MOTEL/HOTEL	TOTAL*	44,845	248,660	1.249	1.052	1.584
32 MULTILINE	01 APARTMENTS	516,608	2,811,524	0.648	0.930	1.401
APARTMENT	02 OTHER HABITATIONAL	159,647	717,577	0.818	0.979	1.474
	TOTAL*	676,255	3,529,101	0.688	0.942	1.418
33 MULTILINE	08 OFFICES AND BANKS	207,446	949,521	0.923	0.997	1.502
OFFICE	TOTAL*	207,446	949,521	0.923	0.997	1.502
34 MULTILINE	03 RESTAURANTS & BARS	134,650	564,487	2.126	1.206	1.816
MERCANTILE	04 OTHER MERCANTILE RS	598,032	3,029,771	0.795	0.963	1.450
	08 OFFICES AND BANKS	39,860	177,154	1.150	1.036	1.560
	13 MOTOR VEHICLE RISKS	33,799	107,699	0.163	0.877	1.321
	14 OTHER NON-MANUF.	19,638	78,800	0.798	0.979	1.474
	15 STORAGE	55,436	279,527	0.057	0.855	1.288
	TOTAL*	881,415	4,237,438	0.944	0.993	1.497

Louisville

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KENTUCKY

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	3,104	12,042	0.000	0.853	1.285
	05 PUBLIC BUILDINGS	2,818	44,441	0.112	0.870	1.310
	06 CHURCHES	100,537	630,913	0.828	0.981	1.477
	07 SCHOOLS	92,192	329,318	6.228	1.883	2.836
	08 OFFICES AND BANKS	19,046	127,224	0.580	0.944	1.422
	09 REC. FACILITIES	1,192	18,053	0.291	0.899	1.354
	11 HOSPITALS/NURS HOME	20,758	100,054	2.378	1.233	1.857
	13 MOTOR VEHICLE RISKS	1,810	7,128	0.000	0.853	1.285
	14 OTHER NON-MANUF.	5,719	29,849	0.125	0.873	1.315
	TOTAL*	247,176	1,299,022	2.910	1.329	2.002
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	3,561	16,639	0.022	0.241	0.363
	04 OTHER MERCANTILE RS	47,001	205,076	0.220	0.261	0.393
	08 OFFICES AND BANKS	23,718	164,793	0.065	0.218	0.328
	09 REC. FACILITIES	70,129	305,947	0.134	0.224	0.337
	13 MOTOR VEHICLE RISKS	104,481	522,698	0.659	0.465	0.700
	14 OTHER NON-MANUF.	37,309	168,543	0.171	0.249	0.375
	15 STORAGE	21,993	106,431	0.000	0.213	0.321
	21 METAL MANUFACTURING	3,433	10,082	0.000	0.239	0.360
	22 OTHER MANUFACTURING	8,210	49,016	0.169	0.260	0.392
	TOTAL*	319,835	1,549,225	0.306	0.311	0.469
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	40,091	176,827	0.000	0.197	0.297
	08 OFFICES AND BANKS	12,177	66,116	0.036	0.231	0.348
	13 MOTOR VEHICLE RISKS	0	1,541	13.869	2.157	3.248
	14 OTHER NON-MANUF.	5,473	52,390	0.000	0.227	0.342
	15 STORAGE	1,615	1,615	0.000	0.242	0.364
	17 FOOD MANUFACTURING	21,349	111,543	0.676	0.378	0.569
	18 WOOD MANUFACTURING	21,993	98,633	0.000	0.215	0.324
	20 CHEM. MANUFACTURING	10,991	70,648	0.000	0.222	0.334
	21 METAL MANUFACTURING	77,994	383,699	0.109	0.208	0.313
	22 OTHER MANUFACTURING	44,595	209,561	0.593	0.382	0.575
	TOTAL*	236,278	1,172,573	0.211	0.257	0.388

Louisville

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KENTUCKY  
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	129,786	599,804	0.412	0.349	0.526
CONTRACTORS	08 OFFICES AND BANKS	34,965	175,002	0.014	0.201	0.303
	14 OTHER NON-MANUF.	10,734	43,241	0.000	0.229	0.345
	TOTAL*	175,485	818,047	0.308	0.312	0.470
TOTAL ALL TOPS*	01 APARTMENTS	518,423	2,931,960	0.655	0.931	1.402
	02 OTHER HABITATIONAL	171,915	850,343	0.872	0.981	1.477
	03 RESTAURANTS & BARS	142,337	600,775	2.012	1.166	1.756
	04 OTHER MERCANTILE RS	859,599	4,329,122	0.644	0.780	1.175
	05 PUBLIC BUILDINGS	3,189	47,174	0.099	0.846	1.274
	06 CHURCHES	103,390	648,257	0.867	0.983	1.479
	07 SCHOOLS	92,744	335,084	6.191	1.875	2.825
	08 OFFICES AND BANKS	361,393	1,820,625	0.734	0.828	1.247
	09 REC. FACILITIES	79,826	399,927	0.128	0.280	0.421
	10 HOTELS AND MOTELS	45,560	254,844	1.229	1.046	1.575
	11 HOSPITALS/NURS HOME	21,610	103,610	2.284	1.210	1.823
	13 MOTOR VEHICLE RISKS	146,243	690,529	0.508	0.573	0.862
	14 OTHER NON-MANUF.	85,450	417,703	0.273	0.486	0.733
	15 STORAGE	87,736	445,606	0.056	0.666	1.002
	17 FOOD MANUFACTURING	21,440	112,599	0.673	0.379	0.571
	18 WOOD MANUFACTURING	25,877	102,627	0.000	0.282	0.425
	20 CHEM. MANUFACTURING	11,054	70,735	0.000	0.224	0.338
	21 METAL MANUFACTURING	85,760	439,516	0.099	0.231	0.349
	22 OTHER MANUFACTURING	55,363	271,859	0.503	0.376	0.567
	TOTAL*	2,918,909	14,872,895	0.866	0.824	1.240

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

Lexington-Fayette

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KENTUCKY  
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	599	58,476	0.221	0.213	0.321
	02 OTHER HABITATIONAL	6,209	81,876	0.390	0.366	0.551
	03 RESTAURANTS & BARS	4,180	39,307	0.000	0.032	0.048
	04 OTHER MERCANTILE RS	27,420	169,001	0.000	0.009	0.014
	05 PUBLIC BUILDINGS	1,404	9,949	0.000	0.074	0.111
	06 CHURCHES	21	608	19.852	4.234	6.377
	07 SCHOOLS	87,584	350,868	0.127	0.128	0.193
	08 OFFICES AND BANKS	14,799	89,616	0.544	0.506	0.762
	09 REC. FACILITIES	3,253	27,548	0.162	0.162	0.244
	10 HOTELS AND MOTELS	2,463	3,549	0.000	0.105	0.158
	11 HOSPITALS/NURS HOME	422	666	0.000	0.129	0.194
	13 MOTOR VEHICLE RISKS	3,032	16,443	0.066	0.100	0.151
	14 OTHER NON-MANUF.	13,500	60,334	0.000	0.023	0.035
	15 STORAGE	2,198	10,882	0.000	0.071	0.107
	17 FOOD MANUFACTURING	0	417	0.000	0.132	0.199
	18 WOOD MANUFACTURING	0	398	0.000	0.132	0.199
	21 METAL MANUFACTURING	1,330	2,569	0.000	0.112	0.169
	22 OTHER MANUFACTURING	16,619	31,221	0.000	0.038	0.057
	TOTAL*	185,033	953,728	0.124	0.130	0.196
31 MULTILINE	10 HOTELS AND MOTELS	45,185	230,920	7.517	2.143	3.227
MOTEL/HOTEL	TOTAL*	45,185	230,920	7.517	2.143	3.227
32 MULTILINE	01 APARTMENTS	382,873	1,973,738	0.340	0.959	1.444
APARTMENT	02 OTHER HABITATIONAL	129,376	528,266	1.403	1.155	1.739
	TOTAL*	512,249	2,502,004	0.608	1.009	1.519
33 MULTILINE	08 OFFICES AND BANKS	148,871	598,025	0.273	0.965	1.453
OFFICE	TOTAL*	148,871	598,025	0.273	0.965	1.453
34 MULTILINE	03 RESTAURANTS & BARS	151,687	568,142	0.025	0.924	1.392
MERCANTILE	04 OTHER MERCANTILE RS	277,716	1,478,123	2.412	1.344	2.024
	08 OFFICES AND BANKS	20,470	73,801	0.070	0.941	1.417
	13 MOTOR VEHICLE RISKS	9,656	50,870	0.000	0.930	1.401
	14 OTHER NON-MANUF.	7,708	47,149	0.356	0.986	1.485
	15 STORAGE	19,848	105,020	0.021	0.932	1.404
	TOTAL*	487,085	2,323,105	1.392	1.166	1.755

Lexington-Fayette

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KENTUCKY  
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	1,160	3,485	0.000	0.931	1.402
	05 PUBLIC BUILDINGS	6,248	47,551	0.000	0.930	1.401
	06 CHURCHES	72,422	401,366	0.539	1.012	1.524
	07 SCHOOLS	44,041	270,749	0.116	0.944	1.422
	08 OFFICES AND BANKS	8,732	50,627	0.000	0.930	1.401
	09 REC. FACILITIES	5,794	14,733	0.000	0.931	1.402
	11 HOSPITALS/NURS HOME	7,064	20,894	0.000	0.930	1.401
	13 MOTOR VEHICLE RISKS	130	143	0.000	0.931	1.402
	14 OTHER NON-MANUF.	3,407	16,701	0.000	0.930	1.401
	TOTAL*	148,998	826,249	0.296	0.974	1.467
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	11,474	35,068	0.146	0.283	0.426
	04 OTHER MERCANTILE RS	28,026	120,743	0.004	0.242	0.364
	08 OFFICES AND BANKS	20,567	125,377	0.178	0.281	0.423
	09 REC. FACILITIES	35,139	199,019	0.252	0.295	0.444
	13 MOTOR VEHICLE RISKS	66,076	388,989	0.385	0.338	0.509
	14 OTHER NON-MANUF.	23,504	132,152	0.233	0.293	0.441
	15 STORAGE	10,416	41,751	0.086	0.272	0.410
	21 METAL MANUFACTURING	629	1,505	0.000	0.266	0.401
	22 OTHER MANUFACTURING	3,045	28,449	0.000	0.260	0.392
	TOTAL*	198,876	1,073,053	0.232	0.297	0.448
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	9,671	45,872	0.256	0.301	0.453
	08 OFFICES AND BANKS	4,122	15,930	0.000	0.263	0.396
	13 MOTOR VEHICLE RISKS	0	281	0.000	0.266	0.401
	14 OTHER NON-MANUF.	814	5,299	0.000	0.265	0.399
	17 FOOD MANUFACTURING	7,681	35,425	0.000	0.258	0.389
	18 WOOD MANUFACTURING	5,323	27,916	0.000	0.260	0.392
	20 CHEM. MANUFACTURING	1,071	5,176	0.000	0.265	0.399
	21 METAL MANUFACTURING	17,017	97,639	0.273	0.303	0.456
	22 OTHER MANUFACTURING	21,240	115,144	0.375	0.325	0.489
	TOTAL*	66,939	348,682	0.225	0.298	0.448
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	73,400	378,707	0.071	0.225	0.339
	08 OFFICES AND BANKS	25,049	118,964	1.930	0.673	1.014
	14 OTHER NON-MANUF.	2,485	13,307	0.000	0.263	0.396
	TOTAL*	100,934	510,978	0.531	0.337	0.508

Lexington-Fayette

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KENTUCKY

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
TOTAL ALL TOPS*	01 APARTMENTS	383,472	2,032,214	0.340	0.958	1.443
	02 OTHER HABITATIONAL	136,745	613,627	1.345	1.117	1.683
	03 RESTAURANTS & BARS	167,341	642,517	0.033	0.858	1.292
	04 OTHER MERCANTILE RS	416,233	2,192,446	1.628	0.960	1.446
	05 PUBLIC BUILDINGS	7,652	57,500	0.000	0.773	1.164
	06 CHURCHES	72,443	401,974	0.545	1.013	1.526
	07 SCHOOLS	131,625	621,617	0.123	0.401	0.604
	08 OFFICES AND BANKS	242,610	1,072,340	0.421	0.834	1.256
	09 REC. FACILITIES	44,186	241,300	0.212	0.369	0.555
	10 HOTELS AND MOTELS	47,648	234,469	7.129	2.038	3.069
	11 HOSPITALS/NURS HOME	7,486	21,560	0.000	0.885	1.333
	13 MOTOR VEHICLE RISKS	78,894	456,726	0.325	0.402	0.606
	14 OTHER NON-MANUF.	51,418	274,942	0.160	0.366	0.552
	15 STORAGE	32,462	157,653	0.040	0.662	0.997
	17 FOOD MANUFACTURING	7,681	35,842	0.000	0.258	0.389
	18 WOOD MANUFACTURING	5,323	28,314	0.000	0.260	0.392
	20 CHEM. MANUFACTURING	1,071	5,176	0.000	0.265	0.399
	21 METAL MANUFACTURING	18,976	101,713	0.245	0.288	0.434
	22 OTHER MANUFACTURING	40,904	174,814	0.195	0.203	0.307
	TOTAL*	1,894,170	9,366,744	0.819	0.849	1.278

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

Balance of State (Kentucky)  
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KENTUCKY  
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	57,096	476,365	0.380	0.987	1.486
	02 OTHER HABITATIONAL	33,967	389,021	4.520	1.660	2.500
	03 RESTAURANTS & BARS	41,860	228,024	1.011	1.091	1.643
	04 OTHER MERCANTILE RS	507,829	2,971,217	1.560	1.192	1.795
	05 PUBLIC BUILDINGS	34,818	175,568	0.737	1.047	1.577
	06 CHURCHES	21,620	243,005	7.622	2.153	3.242
	07 SCHOOLS	117,437	736,236	0.170	0.950	1.431
	08 OFFICES AND BANKS	194,361	1,052,190	0.184	0.949	1.429
	09 REC. FACILITIES	94,636	571,771	0.201	0.957	1.441
	10 HOTELS AND MOTELS	32,902	184,712	0.068	0.940	1.416
	11 HOSPITALS/NURS HOME	19,839	130,622	1.159	1.114	1.678
	13 MOTOR VEHICLE RISKS	120,505	695,358	0.057	0.932	1.404
	14 OTHER NON-MANUF.	175,937	990,381	0.306	0.971	1.462
	15 STORAGE	111,553	586,508	0.909	1.074	1.617
	17 FOOD MANUFACTURING	19,156	65,522	0.000	0.931	1.402
	18 WOOD MANUFACTURING	2,572	23,794	0.000	0.931	1.402
	20 CHEM. MANUFACTURING	11,465	67,589	0.000	0.931	1.402
	21 METAL MANUFACTURING	63,617	325,663	2.529	1.336	2.012
	22 OTHER MANUFACTURING	19,157	136,839	0.230	0.966	1.455
	TOTAL*	1,680,327	10,050,385	0.969	1.086	1.635
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	618,183	3,156,632	1.311	0.794	1.196
	TOTAL*	618,183	3,156,632	1.311	0.794	1.196
32 MULTILINE APARTMENT	01 APARTMENTS	1,667,287	7,514,997	0.686	0.651	0.980
	02 OTHER HABITATIONAL	911,894	4,267,244	0.562	0.616	0.928
	TOTAL*	2,579,181	11,782,241	0.642	0.639	0.962
33 MULTILINE OFFICE	08 OFFICES AND BANKS	990,950	4,504,265	0.544	0.611	0.920
	TOTAL*	990,950	4,504,265	0.544	0.611	0.920
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	929,858	5,052,813	1.182	0.786	1.184
	04 OTHER MERCANTILE RS	3,898,308	20,037,765	0.539	0.588	0.886
	08 OFFICES AND BANKS	199,924	941,208	0.170	0.550	0.828
	13 MOTOR VEHICLE RISKS	173,007	781,596	0.861	0.675	1.017
	14 OTHER NON-MANUF.	81,993	407,762	0.178	0.558	0.840
	15 STORAGE	395,468	1,996,691	1.469	0.809	1.218
	TOTAL*	5,678,558	29,217,835	0.701	0.637	

Balance of State (Kentucky)  
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KENTUCKY  
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	4,000	51,916	0.377	0.594	0.895
	05 PUBLIC BUILDINGS	203,407	1,264,031	0.197	0.551	0.830
	06 CHURCHES	1,715,968	10,284,712	0.520	0.593	0.893
	07 SCHOOLS	2,167,076	11,284,119	0.440	0.560	0.843
	08 OFFICES AND BANKS	228,249	1,353,357	0.068	0.525	0.791
	09 REC. FACILITIES	82,552	454,281	0.558	0.622	0.937
	11 HOSPITALS/NURS HOME	140,990	801,985	0.220	0.561	0.845
	13 MOTOR VEHICLE RISKS	12,903	85,935	0.000	0.533	0.803
	14 OTHER NON-MANUF.	110,151	614,701	2.722	0.999	1.505
	TOTAL*	4,665,296	26,195,037	0.489	0.581	0.876
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	46,722	210,422	0.220	0.477	0.718
	04 OTHER MERCANTILE RS	399,442	1,967,769	0.565	0.529	0.797
	08 OFFICES AND BANKS	235,711	1,587,704	0.263	0.471	0.709
	09 REC. FACILITIES	546,809	2,860,431	0.889	0.604	0.910
	13 MOTOR VEHICLE RISKS	1,031,945	5,633,126	0.677	0.567	0.854
	14 OTHER NON-MANUF.	336,756	1,827,569	0.537	0.523	0.788
	15 STORAGE	314,916	1,639,605	0.375	0.492	0.741
	21 METAL MANUFACTURING	5,878	35,072	0.000	0.448	0.675
	22 OTHER MANUFACTURING	45,857	242,824	0.344	0.494	0.744
	TOTAL*	2,964,036	16,004,522	0.606	0.545	0.821
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	233,400	1,323,346	2.319	0.845	1.273
	08 OFFICES AND BANKS	81,726	355,942	0.044	0.449	0.676
	13 MOTOR VEHICLE RISKS	2,037	10,024	12.976	2.223	3.348
	14 OTHER NON-MANUF.	69,013	351,064	0.801	0.562	0.846
	15 STORAGE	16,393	87,558	0.377	0.500	0.753
	17 FOOD MANUFACTURING	165,102	866,049	0.746	0.557	0.839
	18 WOOD MANUFACTURING	323,218	1,334,719	0.388	0.496	0.747
	20 CHEM. MANUFACTURING	52,680	196,337	0.032	0.450	0.678
	21 METAL MANUFACTURING	754,828	3,744,135	0.171	0.432	0.651
	22 OTHER MANUFACTURING	403,471	2,073,652	0.142	0.443	0.667
	TOTAL*	2,101,868	10,342,826	0.509	0.507	0.764



Balance of State (Kentucky)  
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KENTUCKY  
 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	914,166	4,504,961	0.193	0.431	0.649
	08 OFFICES AND BANKS	212,727	1,092,080	0.654	0.543	0.818
	14 OTHER NON-MANUF.	84,543	436,551	0.017	0.444	0.669
	TOTAL*	1,211,436	6,033,592	0.262	0.452	0.680
TOTAL ALL TOPS*	01 APARTMENTS	1,724,383	7,991,362	0.676	0.663	0.997
	02 OTHER HABITATIONAL	949,861	4,708,181	0.703	0.653	0.984
	03 RESTAURANTS & BARS	1,018,440	5,491,259	1.131	0.784	1.181
	04 OTHER MERCANTILE RS	5,953,145	30,805,058	0.644	0.622	0.936
	05 PUBLIC BUILDINGS	238,225	1,439,599	0.276	0.624	0.939
	06 CHURCHES	1,737,588	10,527,717	0.608	0.612	0.922
	07 SCHOOLS	2,284,513	12,020,355	0.426	0.580	0.874
	08 OFFICES AND BANKS	2,143,648	10,886,746	0.387	0.599	0.901
	09 REC. FACILITIES	723,997	3,886,483	0.761	0.652	0.982
	10 HOTELS AND MOTELS	651,085	3,341,344	1.248	0.802	1.207
	11 HOSPITALS/NURS HOME	160,829	932,607	0.336	0.629	0.948
	13 MOTOR VEHICLE RISKS	1,340,397	7,206,039	0.657	0.616	0.928
	14 OTHER NON-MANUF.	858,393	4,628,028	0.706	0.675	1.016
	15 STORAGE	838,330	4,310,362	0.962	0.719	1.083
	17 FOOD MANUFACTURING	184,258	931,571	0.668	0.596	0.897
	18 WOOD MANUFACTURING	325,790	1,358,513	0.385	0.499	0.752
	20 CHEM. MANUFACTURING	64,145	263,926	0.026	0.536	0.807
	21 METAL MANUFACTURING	824,323	4,104,870	0.352	0.502	0.756
	22 OTHER MANUFACTURING	468,485	2,453,315	0.165	0.469	0.707
	TOTAL*	22,489,835	117,287,335	0.626	0.628	0.946

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

ENTIRE STATE

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KENTUCKY

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	59,510	655,277	0.450	0.986	1.484
	02 OTHER HABITATIONAL	49,340	591,621	3.551	1.386	2.087
	03 RESTAURANTS & BARS	50,166	286,980	0.844	0.967	1.456
	04 OTHER MERCANTILE RS	579,938	3,457,862	1.391	1.096	1.649
	05 PUBLIC BUILDINGS	36,593	188,250	0.701	1.006	1.515
	06 CHURCHES	24,494	260,957	7.008	2.024	3.048
	07 SCHOOLS	205,573	1,092,870	0.151	0.599	0.902
	08 OFFICES AND BANKS	233,341	1,302,621	0.250	0.900	1.355
	09 REC. FACILITIES	106,394	675,246	0.189	0.908	1.368
	10 HOTELS AND MOTELS	36,080	194,445	0.062	0.877	1.322
	11 HOSPITALS/NURS HOME	21,113	134,844	1.089	1.077	1.621
	13 MOTOR VEHICLE RISKS	129,690	763,264	0.055	0.899	1.354
	14 OTHER NON-MANUF.	196,014	1,095,595	0.278	0.895	1.349
	15 STORAGE	122,443	655,423	0.843	1.028	1.548
	17 FOOD MANUFACTURING	19,247	66,995	0.000	0.929	1.400
	18 WOOD MANUFACTURING	6,456	28,186	0.000	0.769	1.158
	20 CHEM. MANUFACTURING	11,528	67,676	0.000	0.929	1.400
	21 METAL MANUFACTURING	69,280	373,967	2.322	1.269	1.912
	22 OTHER MANUFACTURING	38,334	181,342	0.115	0.543	0.818
	TOTAL*	1,995,534	12,073,421	0.858	0.973	1.465
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	708,213	3,636,212	1.703	0.897	1.350
	TOTAL*	708,213	3,636,212	1.703	0.897	1.350
32 MULTILINE APARTMENT	01 APARTMENTS	2,566,768	12,300,259	0.627	0.753	1.134
	02 OTHER HABITATIONAL	1,200,917	5,513,087	0.687	0.722	1.088
	TOTAL*	3,767,685	17,813,346	0.646	0.744	1.119
33 MULTILINE OFFICE	08 OFFICES AND BANKS	1,347,267	6,051,811	0.572	0.709	1.069
	TOTAL*	1,347,267	6,051,811	0.572	0.709	1.069
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	1,216,195	6,185,442	1.142	0.850	1.280
	04 OTHER MERCANTILE RS	4,774,056	24,545,659	0.680	0.679	1.023
	08 OFFICES AND BANKS	260,254	1,192,163	0.312	0.655	0.987
	13 MOTOR VEHICLE RISKS	216,462	940,165	0.714	0.718	1.081
	14 OTHER NON-MANUF.	109,339	533,711	0.302	0.664	1.000
	15 STORAGE	470,752	2,381,238	1.242	0.820	1.234
	TOTAL*	7,047,058	35,778,378	0.779	0.718	1.081

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KENTUCKY

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	8,264	67,443	0.183	0.739	1.112
	05 PUBLIC BUILDINGS	212,473	1,356,023	0.190	0.567	0.853
	06 CHURCHES	1,888,927	11,316,991	0.537	0.629	0.948
	07 SCHOOLS	2,303,309	11,884,186	0.665	0.621	0.934
	08 OFFICES AND BANKS	256,027	1,531,208	0.104	0.570	0.858
	09 REC. FACILITIES	89,538	487,067	0.518	0.645	0.972
	11 HOSPITALS/NURS HOME	168,812	922,933	0.476	0.659	0.993
	13 MOTOR VEHICLE RISKS	14,843	93,206	0.000	0.576	0.867
	14 OTHER NON-MANUF.	119,277	661,251	2.520	0.991	1.492
	TOTAL*	5,061,470	28,320,308	0.601	0.630	0.948
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	61,757	262,129	0.195	0.427	0.644
	04 OTHER MERCANTILE RS	474,469	2,293,588	0.498	0.485	0.731
	08 OFFICES AND BANKS	279,996	1,877,874	0.240	0.436	0.656
	09 REC. FACILITIES	652,077	3,365,397	0.773	0.546	0.823
	13 MOTOR VEHICLE RISKS	1,202,502	6,544,813	0.659	0.545	0.822
	14 OTHER NON-MANUF.	397,569	2,128,264	0.485	0.484	0.728
	15 STORAGE	347,325	1,787,787	0.343	0.468	0.704
	21 METAL MANUFACTURING	9,940	46,659	0.000	0.365	0.549
	22 OTHER MANUFACTURING	57,112	320,289	0.301	0.448	0.675
	TOTAL*	3,482,747	18,626,800	0.557	0.510	0.768
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	283,162	1,546,045	1.920	0.735	1.106
	08 OFFICES AND BANKS	98,025	437,988	0.041	0.414	0.624
	13 MOTOR VEHICLE RISKS	2,037	11,846	12.982	2.223	3.348
	14 OTHER NON-MANUF.	75,300	408,753	0.734	0.534	0.805
	15 STORAGE	18,008	89,173	0.343	0.477	0.718
	17 FOOD MANUFACTURING	194,132	1,013,017	0.709	0.526	0.791
	18 WOOD MANUFACTURING	350,534	1,461,268	0.358	0.475	0.715
	20 CHEM. MANUFACTURING	64,742	272,161	0.026	0.408	0.615
	21 METAL MANUFACTURING	849,839	4,225,473	0.167	0.409	0.616
	22 OTHER MANUFACTURING	469,306	2,398,357	0.195	0.432	0.650
	TOTAL*	2,405,085	11,864,081	0.472	0.477	0.718

ENTIRE STATE

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KENTUCKY

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	1,117,352	5,483,472	0.210	0.408	0.614
	08 OFFICES AND BANKS	272,741	1,386,046	0.689	0.511	0.770
	14 OTHER NON-MANUF.	97,762	493,099	0.015	0.416	0.626
	TOTAL*	1,487,855	7,362,617	0.285	0.428	0.644
TOTAL ALL TOPS*	01 APARTMENTS	2,626,278	12,955,536	0.623	0.759	1.142
	02 OTHER HABITATIONAL	1,258,521	6,172,151	0.796	0.748	1.127
	03 RESTAURANTS & BARS	1,328,118	6,734,551	1.087	0.834	1.257
	04 OTHER MERCANTILE RS	7,228,977	37,326,626	0.701	0.660	0.994
	05 PUBLIC BUILDINGS	249,066	1,544,273	0.265	0.631	0.950
	06 CHURCHES	1,913,421	11,577,948	0.620	0.647	0.975
	07 SCHOOLS	2,508,882	12,977,056	0.623	0.619	0.932
	08 OFFICES AND BANKS	2,747,651	13,779,711	0.436	0.649	0.978
	09 REC. FACILITIES	848,009	4,527,710	0.673	0.602	0.907
	10 HOTELS AND MOTELS	744,293	3,830,657	1.623	0.896	1.349
	11 HOSPITALS/NURS HOME	189,925	1,057,777	0.544	0.705	1.062
	13 MOTOR VEHICLE RISKS	1,565,534	8,353,294	0.627	0.601	0.905
	14 OTHER NON-MANUF.	995,261	5,320,673	0.640	0.642	0.968
	15 STORAGE	958,528	4,913,621	0.848	0.712	1.073
	17 FOOD MANUFACTURING	213,379	1,080,012	0.645	0.562	0.846
	18 WOOD MANUFACTURING	356,990	1,489,454	0.351	0.480	0.723
	20 CHEM. MANUFACTURING	76,270	339,837	0.022	0.487	0.733
	21 METAL MANUFACTURING	929,059	4,646,099	0.326	0.473	0.712
	22 OTHER MANUFACTURING	564,752	2,899,988	0.201	0.441	0.664
	TOTAL*	27,302,914	141,526,974	0.665	0.664	1.000

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

KENTUCKY

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	511,249	3,609,022	1.312	1.315
	02 RES. APTS. AND COND	6,213	81,695	0.295	0.296
	03 OFFICES	76,448	461,978	1.390	1.393
	04 MERCANTILE - HIGH	110,574	692,054	0.272	0.273
	05 MERCANTILE - MEDIUM	23,308	135,579	0.410	0.411
	06 MERCANTILE - LOW	15,918	114,899	1.264	1.267
	07 MOTELS AND HOTELS	3,439	16,193	0.221	0.221
	08 INSTITUTIONAL - HIG	202,972	992,549	0.447	0.448
	09 INSTITUTIONAL - LOW	23,649	150,465	2.955	2.961
	10 INDUST-PROC - HIGH	8,749	40,529	0.167	0.167
	11 INDUST-PROC - LOW	49,138	255,219	1.107	1.109
	12 SERVICE - HIGH	19,417	152,729	0.907	0.909
	13 SERVICE - LOW	46,733	253,897	0.288	0.289
	14 CONTRACTORS	3,385	19,859	1.595	1.598
	TOTAL*	1,101,192	6,976,667	0.992	0.994
31 MULTILINE	01 BUILDINGS	311,623	1,620,257	1.322	1.325
MOTEL/HOTEL	07 MOTELS AND HOTELS	68,645	418,934	0.581	0.582
	TOTAL*	380,268	2,039,191	1.188	1.190
32 MULTILINE	01 BUILDINGS	1,805,482	8,304,303	0.494	0.495
APARTMENT	02 RES. APTS. AND COND	230,748	1,373,478	0.138	0.138
	TOTAL*	2,036,230	9,677,781	0.454	0.455
33 MULTILINE	01 BUILDINGS	709,960	3,237,605	0.643	0.644
OFFICE	03 OFFICES	314,225	1,421,285	1.791	1.795
	08 INSTITUTIONAL - HIG	300	2,815	0.000	0.000
	12 SERVICE - HIGH	117	629	0.000	0.000
	TOTAL*	1,024,602	4,662,334	0.995	0.997

KENTUCKY

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	2,154,190	10,734,303	0.618	0.619
	03 OFFICES	6,050	19,928	0.787	0.789
	04 MERCANTILE - HIGH	583,408	3,083,505	0.752	0.754
	05 MERCANTILE - MEDIUM	441,201	2,804,236	0.691	0.692
	06 MERCANTILE - LOW	204,161	1,062,343	0.348	0.349
	08 INSTITUTIONAL - HIG	337	2,370	0.000	0.000
	09 INSTITUTIONAL - LOW	11	11	0.000	0.000
	11 INDUST-PROC - LOW	657	1,609	0.000	0.000
	12 SERVICE - HIGH	3,267	13,389	56.706	56.820
	13 SERVICE - LOW	5,831	38,523	3.335	3.342
	14 CONTRACTORS	1,279	7,701	0.000	0.000
	TOTAL*	3,400,392	17,767,918	0.693	0.694
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	1,215,523	6,845,305	1.297	1.300
	03 OFFICES	377	2,144	0.000	0.000
	04 MERCANTILE - HIGH	116	123	0.000	0.000
	06 MERCANTILE - LOW	218	868	0.000	0.000
	08 INSTITUTIONAL - HIG	871,792	5,078,704	2.866	2.872
	09 INSTITUTIONAL - LOW	243,841	1,600,037	0.741	0.742
	12 SERVICE - HIGH	498	3,705	0.000	0.000
	13 SERVICE - LOW	1,120	4,128	0.000	0.000
	14 CONTRACTORS	1,111	7,198	0.000	0.000
	TOTAL*	2,334,596	13,542,212	1.823	1.827
36 MULTILINE SERVICES	01 BUILDINGS	1,326,339	7,029,830	1.472	1.475
	03 OFFICES	2,877	14,510	0.186	0.186
	04 MERCANTILE - HIGH	12,529	71,347	0.000	0.000
	05 MERCANTILE - MEDIUM	1,617	9,471	0.115	0.115
	06 MERCANTILE - LOW	2,041	7,057	0.000	0.000
	08 INSTITUTIONAL - HIG	6,041	51,312	0.000	0.000
	09 INSTITUTIONAL - LOW	8,924	42,917	0.000	0.000
	10 INDUST-PROC - HIGH	319	511	0.000	0.000
	11 INDUST-PROC - LOW	3,258	13,612	0.000	0.000
	12 SERVICE - HIGH	491,765	2,940,739	0.930	0.932
	13 SERVICE - LOW	260,662	1,304,608	0.871	0.873
	14 CONTRACTORS	1,790	12,718	0.000	0.000
	TOTAL*	2,118,162	11,498,632	1.245	1.247

KENTUCKY

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	501,255	2,706,654	0.917	0.919
	03 OFFICES	933	5,326	0.000	0.000
	04 MERCANTILE - HIGH	3,833	25,351	0.000	0.000
	05 MERCANTILE - MEDIUM	703	3,356	0.000	0.000
	06 MERCANTILE - LOW	0	22	0.000	0.000
	10 INDUST-PROC - HIGH	72,779	392,525	0.526	0.527
	11 INDUST-PROC - LOW	359,292	1,871,567	0.508	0.509
	12 SERVICE - HIGH	430	756	0.000	0.000
	13 SERVICE - LOW	282	1,814	0.000	0.000
	14 CONTRACTORS	110	212	0.000	0.000
	TOTAL*	939,617	5,007,583	0.724	0.725
38 MULTILINE CONTRACTORS	01 BUILDINGS	434,619	2,186,647	0.751	0.753
	03 OFFICES	10,003	65,740	4.523	4.532
	04 MERCANTILE - HIGH	48,676	269,393	0.588	0.589
	05 MERCANTILE - MEDIUM	1,100	6,648	0.867	0.869
	06 MERCANTILE - LOW	12,429	53,890	0.201	0.201
	08 INSTITUTIONAL - HIG	156	530	0.000	0.000
	12 SERVICE - HIGH	812	1,717	0.000	0.000
	13 SERVICE - LOW	1,031	5,019	0.000	0.000
	14 CONTRACTORS	434,515	1,961,121	1.001	1.003
	TOTAL*	943,341	4,550,705	0.889	0.891
TOTAL ALL TOPS*	01 BUILDINGS	8,970,240	46,273,926	0.900	0.902
	02 RES. APTS. AND COND	236,961	1,455,173	0.142	0.142
	03 OFFICES	410,913	1,990,911	1.751	1.755
	04 MERCANTILE - HIGH	759,136	4,141,773	0.655	0.656
	05 MERCANTILE - MEDIUM	467,929	2,959,290	0.674	0.675
	06 MERCANTILE - LOW	234,767	1,239,079	0.399	0.400
	07 MOTELS AND HOTELS	72,084	435,127	0.564	0.565
	08 INSTITUTIONAL - HIG	1,081,598	6,128,280	2.394	2.399
	09 INSTITUTIONAL - LOW	276,425	1,793,430	0.906	0.908
	10 INDUST-PROC - HIGH	81,847	433,565	0.486	0.487
	11 INDUST-PROC - LOW	412,345	2,142,007	0.575	0.576
	12 SERVICE - HIGH	516,306	3,113,664	1.279	1.282
	13 SERVICE - LOW	315,659	1,607,989	0.823	0.825
	14 CONTRACTORS	442,190	2,008,809	0.996	0.998
	TOTAL*	14,278,400	75,723,023	0.998	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: +2.1%

	(1) ACCIDENT YEAR ENDING 06/30/17	(2) ACCIDENT YEARS 2008-2017	(3) FORMULA RELATIVITY (2) / 1.027	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELATIVITY E	(7) NORMALIZED FORMULA RELATIVITY F	(8) CURRENT IMPLICIT PMF	(9) INDICATED IMPLICIT PMF G	(10) INDIC. LOSS COST ADJUST
MONOLINE	1,316,632	1.043	1.016	0.304	1.005	1.005	1.0056			+2.8%
MULTILINE	18,840,778	1.026	0.999	0.810	0.999	0.999	0.9996			+2.1%
COVERAGE	20,157,410	1.027	1.000			0.9994 B	1.0000			+2.1%
MULTILINE TOP										
31 MOTEL/HOTEL	590,943	1.461	1.423	0.115	1.049	1.055	1.0556	1.117	1.173	+7.9%
32 APARTMENT	3,046,077	1.491	1.452	0.363	1.164	1.171	1.1717	1.028	1.198	+19.7%
33 OFFICE	1,070,983	0.792	0.771	0.171	0.961	0.967	0.9676	0.763	0.734	-1.1%
34 MERCANTILE	4,519,026	0.963	0.938	0.504	0.969	0.975	0.9756	0.980	0.951	-0.3%
35 INSTITUTIONAL	4,668,189	0.954	0.929	0.548	0.961	0.967	0.9676	0.773	0.744	-1.1%
36 SERVICES	2,827,845	0.757	0.737	0.400	0.895	0.900	0.9005	1.054	0.944	-8.0%
37 INDUST/PROCESS	1,143,544	1.245	1.212	0.199	1.042	1.048	1.0486	0.699	0.729	+7.2%
38 CONTRACTORS	974,171	0.732	0.713	0.173	0.950	0.956	0.9566	1.074	1.022	-2.2%
	18,840,778	1.026 B	0.999		0.993 B	0.999 B	0.9996 B			+2.1%

B - AVERAGE WEIGHTED BY COLUMN (1)

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

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

E - (6) = (5) \* (0.999/0.993)

F - (7) = (6) / 0.9994

G - (9) = (7) \* (8) / (1.0056)

## 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

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## 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*
2000-07-01	-8.7	0.913	0.770	0.504
2001-10-01	3.9	0.949	0.741	0.252
2003-11-01	4.5	0.991	0.709	0.167
2004-09-01	-9.6	0.896	0.785	0.333
2006-02-01	-12.8	0.781	0.900	0.915
2009-01-01	-9.2	0.710	0.990	1.000
2010-02-01	-8.4	0.650	1.082	0.915
2012-02-01	-7.2	0.603	1.166	0.915
2013-02-01	9.7	0.662	1.062	0.915
2014-02-01	7.1	0.709	0.992	0.915
2016-02-01	0.0	0.709	0.992	0.915
2017-04-01	-0.8	0.703	1.000	0.753

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*
2000-07-01	-2.2	0.978	1.451	0.504
2001-10-01	3.6	1.013	1.401	0.252
2003-11-01	-3.6	0.977	1.452	0.167
2004-09-01	3.4	1.010	1.405	0.333
2006-02-01	9.4	1.105	1.284	0.915
2009-01-01	0.0	1.105	1.284	1.000
2010-02-01	2.8	1.136	1.249	0.915
2012-02-01	-1.0	1.124	1.262	0.915
2013-02-01	2.4	1.151	1.233	0.915
2014-02-01	8.3	1.247	1.138	0.915
2016-02-01	8.6	1.354	1.048	0.915
2017-04-01	4.8	1.419	1.000	0.753

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*
2000-07-01	6.4	1.064	1.180	0.504
2001-10-01	4.5	1.112	1.129	0.252
2003-11-01	3.0	1.145	1.096	0.167
2004-09-01	-2.4	1.118	1.123	0.333
2006-02-01	11.0	1.241	1.011	0.915
2009-01-01	-9.3	1.125	1.116	1.000
2010-02-01	0.0	1.125	1.116	0.915
2012-02-01	-10.8	1.004	1.250	0.915
2013-02-01	-4.5	0.959	1.309	0.915
2014-02-01	8.5	1.040	1.207	0.915
2016-02-01	9.7	1.141	1.100	0.915
2017-04-01	10.0	1.255	1.000	0.753

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: Louisville

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
02-01-2006	SPEC.	-28.6	-29.6	-32.5	-32.5	-31.6	-29.4	-30.9	-30.0	-31.4	-31.5	-31.7	-32.5	-30.9	-32.5	-32.5	-32.5	-32.2	-32.0	-32.0	-32.5	-32.5
	CLASS	-9.9	-11.2	-16.3	-15.6	-13.7	-11.0	-12.9	-11.7	-13.4	-13.6	-13.9	-14.9	-12.9	-14.9	-15.1	-14.9	-32.2	-14.3	-32.0	-32.5	-17.5
01-01-2009	SPEC.	-7.3	-12.0	-18.8	-15.4	-15.1	-9.2	-15.0	-15.5	-17.5	-29.2	-15.3	-15.2	-17.1	-15.4	-19.4	-15.2	-13.8	-14.2	-15.4	-13.8	-16.9
	CLASS	-6.7	-11.4	-18.3	-14.8	-14.5	-8.5	-14.4	-14.9	-16.9	-29.2	-14.7	-14.6	-16.5	-14.8	-18.9	-14.6	-13.8	-13.6	-15.4	-13.8	-16.3
02-01-2010	SPEC.	6.1	1.4	-7.9	1.0	-3.4	-5.1	-9.9	-3.8	-4.3	-12.5	-2.1	-2.3	-2.6	-2.3	-8.1	-3.1	-1.3	-2.0	-3.3	-2.0	-3.5
	CLASS	-4.8	-9.1	-17.4	-9.4	-13.4	-14.9	-19.2	-13.8	-14.2	-21.5	-12.2	-12.4	-12.6	-12.4	-17.6	-13.1	-1.3	-12.1	-3.3	-2.0	-13.5
02-01-2012	SPEC.	6.5	6.4	9.1	6.7	4.9	10.6	2.1	0.3	2.4	2.9	5.3	4.1	7.6	4.1	3.2	3.9	5.6	5.4	4.4	3.3	3.1
	CLASS	-3.1	-3.2	-0.8	-2.9	-4.6	0.7	-7.1	-8.7	-6.8	-6.4	-4.2	-5.3	-2.1	-5.3	-6.1	-5.5	5.6	-4.1	4.4	3.3	-6.2
02-01-2013	SPEC.	-1.6	0.7	-0.4	7.3	0.9	3.8	-2.5	-2.7	-0.1	-1.1	1.6	-0.3	4.4	-0.3	-1.4	0.7	2.3	1.4	0.9	0.1	0.6
	CLASS	9.6	12.1	10.8	19.4	12.3	15.6	8.6	8.3	11.2	10.0	13.1	10.9	16.3	10.9	9.7	12.1	2.3	12.9	0.9	0.1	12.0
02-01-2014	SPEC.	-18.6	-15.4	-16.2	-10.8	-13.3	-7.0	-20.0	-17.1	-16.7	-16.8	-14.1	-16.9	-13.9	-16.9	-20.0	-15.1	-15.6	-14.6	-15.2	-13.7	-14.3
	CLASS	2.9	6.9	5.9	12.6	9.6	17.5	-5.5	4.7	5.3	5.2	8.6	5.1	8.8	5.1	0.9	7.3	-15.6	8.0	-15.2	-13.7	8.3
02-01-2016	SPEC.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CLASS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04-01-2017	SPEC.	-16.6	-16.6	-1.3	10.1	-12.6	-16.6	-16.6	-16.6	-12.4	-15.2	-12.6	-16.6	-9.3	-16.6	-11.5	-10.6	-11.1	-10.6	-11.7	-7.2	-10.6
	CLASS	-16.6	-16.6	-1.3	10.1	-12.6	-16.6	-16.6	-16.6	-12.4	-15.2	-12.6	-16.6	-9.3	-16.6	-11.5	-10.6	-11.1	-10.6	-11.7	-7.2	-10.6

KENTUCKY  
TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Lexington-Fayette

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	
02-01-2006	SPEC.	-28.9	-29.9	-32.8	-32.8	-31.9	-29.8	-31.3	-30.3	-31.7	-31.8	-32.0	-32.8	-31.3	-32.8	-32.8	-32.8	-32.5	-32.3	-32.3	-32.8	-32.8	
	CLASS	-10.3	-11.6	-16.7	-16.0	-14.1	-11.4	-13.3	-12.1	-13.8	-14.0	-14.2	-15.3	-13.3	-15.3	-15.4	-15.3	-32.5	-14.7	-32.3	-32.8	-17.8	
01-01-2009	SPEC.	0.3	-4.8	-12.2	-8.4	-8.1	-1.7	-8.1	-8.6	-10.7	-23.4	-8.3	-8.2	-10.3	-8.4	-12.8	-8.2	-6.7	-7.1	-8.5	-6.7	-10.1	
	CLASS	1.0	-4.1	-11.6	-7.8	-7.5	-1.0	-7.4	-8.0	-10.1	-23.4	-7.7	-7.6	-9.6	-7.8	-12.2	-7.6	-6.7	-6.5	-8.5	-6.7	-9.4	
02-01-2010	SPEC.	18.1	12.9	2.5	12.4	7.5	5.7	0.3	7.1	6.5	-2.6	9.0	8.8	8.5	8.8	2.3	7.8	9.9	9.1	7.6	9.1	7.4	
	CLASS	5.9	1.2	-8.1	0.8	-3.6	-5.3	-10.1	-4.0	-4.5	-12.7	-2.3	-2.5	-2.8	-2.5	-8.2	-3.3	9.9	-2.2	7.6	9.1	-3.7	
02-01-2012	SPEC.	10.1	10.0	12.7	10.3	8.4	14.3	5.5	3.7	5.9	6.3	8.8	7.6	11.2	7.6	6.6	7.4	9.1	8.9	7.9	6.7	6.5	
	CLASS	0.2	0.1	2.5	0.4	-1.4	4.0	-4.0	-5.7	-3.7	-3.3	-1.0	-2.1	1.2	-2.1	-3.0	-2.3	9.1	-0.9	7.9	6.7	-3.1	
02-01-2013	SPEC.	-0.1	2.2	1.1	8.9	2.4	5.4	-1.0	-1.2	1.4	0.4	3.1	1.2	6.0	1.2	0.0	2.2	3.9	2.9	2.4	1.6	2.1	
	CLASS	11.3	13.8	12.5	21.2	14.0	17.3	10.2	10.0	12.9	11.7	14.8	12.6	18.0	12.6	11.4	13.8	3.9	14.6	2.4	1.6	13.7	
02-01-2014	SPEC.	-11.4	-8.0	-8.8	-2.9	-5.6	1.3	-12.9	-9.8	-9.3	-9.4	-6.5	-9.5	-6.3	-9.5	-13.1	-7.6	-8.1	-7.0	-7.7	-6.1	-6.7	
	CLASS	12.0	16.2	15.2	22.6	19.2	27.9	2.8	13.9	14.5	14.4	18.1	14.2	18.4	14.2	9.9	16.7	-8.1	17.4	-7.7	-6.1	17.8	
02-01-2016	SPEC.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CLASS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
04-01-2017	SPEC.	-25.6	-25.6	-11.9	-1.8	-22.1	-25.6	-25.6	-25.6	-21.9	-24.4	-22.1	-25.6	-19.1	-25.6	-21.0	-20.3	-20.6	-20.3	-21.2	-17.3	-20.3	
	CLASS	-25.6	-25.6	-11.9	-1.8	-22.1	-25.6	-25.6	-25.6	-21.9	-24.4	-22.1	-25.6	-19.1	-25.6	-21.0	-20.3	-20.6	-20.3	-21.2	-17.3	-20.3	

KENTUCKY  
TABLE 16

HISTORY OF BASIC GROUP I

LOSS COST CHANGES BY TERRITORY, RATING ID AND RATING GROUP

TERRITORY: Balance of State (Kentucky)

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	
02-01-2006	SPEC.	-18.1	-19.3	-22.6	-22.6	-21.5	-19.1	-20.8	-19.7	-21.3	-21.5	-21.7	-22.6	-20.8	-22.6	-22.6	-22.6	-22.2	-22.1	-22.1	-22.6	-22.6	
	CLASS	3.3	1.8	-4.0	-3.2	-1.0	2.0	-0.1	1.2	-0.7	-0.9	-1.2	-2.4	-0.1	-2.4	-2.6	-2.4	-22.2	-1.7	-22.1	-22.6	-5.5	
01-01-2009	SPEC.	-0.4	-5.4	-12.8	-9.1	-8.8	-2.4	-8.7	-9.2	-11.3	-23.9	-9.0	-8.9	-10.9	-9.1	-13.4	-8.9	-7.3	-7.8	-9.1	-7.3	-10.7	
	CLASS	0.3	-4.7	-12.2	-8.4	-8.1	-1.7	-8.0	-8.6	-10.7	-23.9	-8.3	-8.2	-10.2	-8.4	-12.8	-8.2	-7.3	-7.1	-9.1	-7.3	-10.1	
02-01-2010	SPEC.	6.5	1.7	-7.6	1.3	-3.1	-4.8	-9.6	-3.5	-4.0	-12.2	-1.8	-2.0	-2.3	-2.0	-7.8	-2.8	-1.0	-1.7	-3.0	-1.7	-3.2	
	CLASS	-4.5	-8.8	-17.1	-9.2	-13.1	-14.6	-19.0	-13.5	-13.9	-21.3	-11.9	-12.1	-12.4	-12.1	-17.3	-12.9	-1.0	-11.8	-3.0	-1.7	-13.2	
02-01-2012	SPEC.	-3.3	-3.4	-1.0	-3.1	-4.8	0.5	-7.3	-8.9	-7.0	-6.6	-4.4	-5.5	-2.3	-5.5	-6.3	-5.6	-4.1	-4.3	-5.2	-6.2	-6.4	
	CLASS	-12.0	-12.1	-9.9	-11.8	-13.4	-8.6	-15.6	-17.1	-15.4	-15.0	-13.0	-14.0	-11.1	-14.0	-14.8	-14.2	-4.1	-12.9	-5.2	-6.2	-14.8	
02-01-2013	SPEC.	-0.1	2.2	1.1	8.9	2.4	5.4	-1.0	-1.2	1.4	0.4	3.1	1.2	6.0	1.2	0.0	2.2	3.9	2.9	2.4	1.6	2.1	
	CLASS	11.3	13.8	12.5	21.2	14.0	17.3	10.2	10.0	12.9	11.7	14.8	12.6	18.0	12.6	11.4	13.8	3.9	14.6	2.4	1.6	13.7	
02-01-2014	SPEC.	-11.5	-8.0	-8.9	-3.0	-5.7	1.2	-13.0	-9.9	-9.4	-9.5	-6.6	-9.6	-6.4	-9.6	-13.2	-7.7	-8.2	-7.1	-7.8	-6.2	-6.8	
	CLASS	11.9	16.1	15.1	22.5	19.1	27.7	2.7	13.8	14.4	14.3	18.0	14.1	18.2	14.1	9.8	16.6	-8.2	17.3	-7.8	-6.2	17.7	
02-01-2016	SPEC.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	CLASS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
04-01-2017	SPEC.	-5.8	-5.8	11.4	24.4	-1.3	-5.8	-5.8	-5.8	-1.0	-4.2	-1.3	-5.8	2.4	-5.8	0.0	1.0	0.4	1.0	-0.3	4.8	1.0	
	CLASS	-5.8	-5.8	11.4	24.4	-1.3	-5.8	-5.8	-5.8	-1.0	-4.2	-1.3	-5.8	2.4	-5.8	0.0	1.0	0.4	1.0	-0.3	4.8	1.0	



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.

KENTUCKY  
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
02-01-2006	11.5	7.2	17.1	5.4	11.7									
01-01-2009	-12.0	-14.1	-8.3	8.5	1.6									
02-01-2010	-1.5	-5.8	-0.7	9.6	5.1									
02-01-2012	-10.6	-10.8	-10.6	-6.2	-6.6	-10.0	-9.9	-13.9	-12.8	-9.7	-11.7	-8.8	-11.6	-9.7
02-01-2013	-3.8	-6.4	-5.2	-3.9	2.3	-4.2	-4.2	-12.2	-7.9	-5.4	-5.5	-5.3	-6.0	-3.6
02-01-2014	8.9	7.8	4.0	8.2	8.8	7.6	8.3	11.0	5.9	7.7	7.5	6.4	6.7	7.9
02-01-2016	11.6	9.4	7.6	9.8	11.7	6.7	7.3	2.6	6.1	8.8	9.8	3.8	6.5	9.0
04-01-2017	8.8	12.7	9.6	10.0	13.1	9.6	9.6	20.3	8.4	10.4	9.4	5.4	8.3	10.4

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.

KENTUCKY  
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	1.000	0.500	1.500
32	APARTMENT	0.875	0.500	1.500
33	OFFICE	0.792	0.500	1.500
34	MERCANTILE	0.767	0.500	1.500
35	INSTITUTIONAL	0.975	0.500	1.500
36	SERVICES	0.842	0.500	1.500
37	INDUST/PROCESSING	1.021	0.500	1.500
38	CONTRACTORS	0.854	0.500	1.500

KENTUCKY  
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	1.117	0.500	1.500
32	APARTMENT	1.028	0.500	1.500
33	OFFICE	0.763	0.500	1.500
34	MERCANTILE	0.980	0.500	1.500
35	INSTITUTIONAL	0.773	0.500	1.500
36	SERVICES	1.054	0.500	1.500
37	INDUST/PROCESSING	0.699	0.500	1.500
38	CONTRACTORS	1.074	0.500	1.500

KENTUCKY  
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	0.861	0.500	1.500
32	APARTMENT	0.896	0.500	1.500
33	OFFICE	0.836	0.500	1.500
34	MERCANTILE	0.822	0.500	1.500
35	INSTITUTIONAL	0.621	0.500	1.500
36	SERVICES	0.925	0.500	1.500
37	INDUST/PROCESSING	0.627	0.500	1.500
38	CONTRACTORS	0.957	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 <sup>(a)</sup>

<u>Quarter</u>	<u>XCI</u>	<u>PPI</u>	<u>IMSEP</u>	<u>RSALES</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 2018, 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><math display="block">\text{MSEP} = (\text{CD} + \text{CN} + \text{FS}) + (\text{EXD\&amp;N} - \text{IMD\&amp;N}) + (\text{IFIX} - \text{IPP}), \text{ where}</math></p> <p>CD and CN represent consumption of durables and nondurables, respectively; EXD&amp;N and IMD&amp;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<sup>a</sup>**

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: <sup>b</sup> $(1.0 + \text{Annual Rate of Change})^{(X/12)}$	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<sup>c</sup>**

	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 <sup>d</sup>	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA <sup>e</sup>	(15) Frequency Effect	(16) Final LTA <sup>f</sup>
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 <sup>d</sup>	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA <sup>e</sup>	(15) Frequency Effect	(16) Final LTA <sup>f</sup>
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 <sup>d</sup>	(12) Internal Rate of Change	(13) Indicated Severity LTA [(12)/(11)-1.0]	(14) Formula Severity LTA <sup>e</sup>	(15) Frequency Effect	(16) Final LTA <sup>f</sup>
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**

	Buildings				Contents			
	(1) <sup>a</sup> Annual Written Increase	(2) <sup>a</sup> 07-01-2017 Written Factors	(3) <sup>b</sup> 07-01-2019 Projected Factors	(4) <sup>c</sup> 07-01-2019 Earned Factors	(5) <sup>a</sup> Annual Written Increase	(6) <sup>a</sup> 07-01-2017 Written Factors	(7) <sup>b</sup> 07-01-2019 Projected Factors	(8) <sup>c</sup> 07-01-2019 Earned Factors
Year								
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:

Earning Factors	
Year	All Years
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) <sup>a</sup>	(2) <sup>a</sup>	(3) <sup>b</sup>	(4) <sup>c</sup>
<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) <sup>a</sup>	(2) <sup>a</sup>	(3) <sup>b</sup>	(4) <sup>c</sup>	(5) <sup>a</sup>	(6) <sup>a</sup>	(7) <sup>b</sup>	(8) <sup>c</sup>
	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**

	<u>Buildings</u>				<u>Contents</u>			
	(1) <sup>a</sup>	(2) <sup>a</sup>	(3) <sup>b</sup>	(4) <sup>c</sup>	(5) <sup>a</sup>	(6) <sup>a</sup>	(7) <sup>b</sup>	(8) <sup>c</sup>
<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	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:

	<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 1.040 for Contents.

TABLE 24D

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

	<u>Buildings</u>				<u>Contents</u>			
	(1) <sup>a</sup>	(2) <sup>a</sup>	(3) <sup>b</sup>	(4) <sup>c</sup>	(5) <sup>a</sup>	(6) <sup>a</sup>	(7) <sup>b</sup>	(8) <sup>c</sup>
	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	2.6%	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).

KENTUCKY  
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)	----- BUILDINGS	SPLIT % CONTENTS	----- TIME ELEMENT
2013	17,932,206	22,496,714	1.255	86.7%	12.4%	0.9%
2014	13,925,743	17,136,223	1.231	73.5%	24.3%	2.2%
2015	13,664,236	16,070,561	1.176	74.5%	20.3%	5.2%
2016	23,596,143	26,709,513	1.132	73.7%	11.6%	14.7%
2017	26,756,207	29,607,059	1.107	69.6%	25.9%	4.5%

KENTUCKY  
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 ELEMENT
				BUILDINGS	CONTENTS	
2008	22,062,594	30,819,747	1.397	93.0%	5.4%	1.6%
2009	43,555,719	57,140,660	1.312	88.6%	8.2%	3.2%
2010	5,816,575	7,549,184	1.298	71.6%	27.7%	0.7%
2011	16,397,660	20,492,339	1.250	91.6%	6.0%	2.4%
2012	65,784,997	82,129,716	1.248	96.9%	2.4%	0.7%
2013	7,990,169	9,902,462	1.239	90.1%	9.7%	0.2%
2014	7,013,789	8,519,339	1.215	91.3%	7.2%	1.5%
2015	10,823,421	12,586,342	1.163	98.2%	1.8%	0.0%
2016	13,407,776	15,129,248	1.128	95.9%	3.9%	0.2%
2017	20,996,861	23,008,745	1.096	90.8%	8.5%	0.7%

KENTUCKY  
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)	----- BUILDINGS	SPLIT % CONTENTS	----- TIME ELEMENT
2013	7,237,286	8,828,999	1.220	64.4%	34.7%	0.9%
2014	13,953,843	16,807,773	1.205	87.4%	11.8%	0.8%
2015	31,682,899	36,200,009	1.143	89.6%	8.4%	2.0%
2016	6,012,593	6,729,427	1.119	79.3%	20.4%	0.3%
2017	6,613,181	7,247,828	1.096	64.8%	34.3%	0.9%

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

LOSSES AS OF					
YEAR ENDING	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				

RATIOS				
YEAR ENDING	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

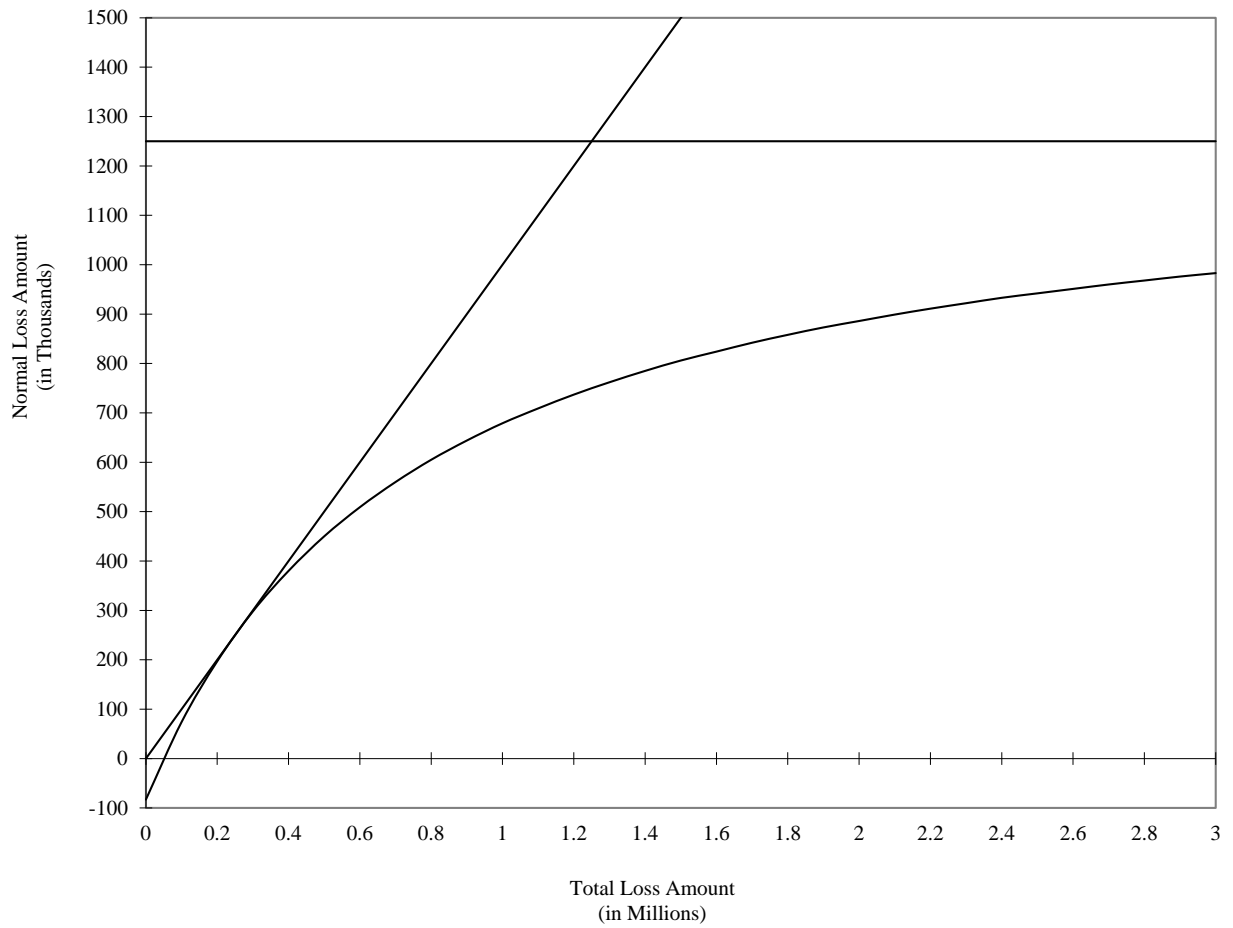
		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 4-6	Prot. 1-4	1.000	1.039	1.081	1.123	1.167	1.214	1.261	1.311	1.363	1.417	1.844
	Prot. 5-7	1.000	1.052	1.106	1.164	1.224	1.288	1.354	1.425	1.499	1.576	2.223
	Prot. 8-10	1.000	1.053	1.109	1.168	1.230	1.296	1.364	1.437	1.513	1.594	2.267

*	<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.

KENTUCKY  
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	22,496,714	14,159,987	62.9%	70.8%	16,765,731	1.184
2014	17,136,223	15,303,682	89.3%	72.0%	18,952,729	1.238
2015	16,070,561	13,968,139	86.9%	75.0%	19,654,505	1.407
2016	26,709,513	11,619,620	43.5%	70.3%	15,587,566	1.341
2017	29,607,059	17,684,005	59.7%	73.3%	24,803,459	1.403

## 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.

KENTUCKY  
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	1,442,336	209,488	209,488	0.145		
1951	1,710,845	413,322	413,322	0.242		
1952	1,875,314	383,411	383,411	0.204		
1953	1,791,325	445,966	445,966	0.249		
1954	1,761,197	597,081	597,081	0.339		
1955	1,804,430	779,561	779,561	0.432		
1956	1,906,160	1,016,118	1,016,118	0.533		
1957	2,109,303	849,634	849,634	0.403		
1958	2,113,988	400,636	400,636	0.190		
1959	2,146,915	1,243,243	1,243,243	0.579		
1960	2,312,892	903,397	903,397	0.391		
1961	2,357,648	1,097,027	1,097,027	0.465		
1962	2,409,666	863,148	863,148	0.358		
1963	2,324,693	914,766	914,766	0.393		
1964	2,174,456	1,180,233	1,180,233	0.543		
1965	2,097,074	778,303	778,303	0.371		
1966	2,015,930	1,114,862	1,114,862	0.553		
1967	1,986,325	1,220,619	1,220,619	0.615		
1968	1,899,030	925,296	925,296	0.487		
1969	1,943,175	1,119,463	1,119,463	0.576		
1970	2,575,096	1,451,940	1,451,940	0.564		
1971	2,570,703	1,654,227	1,654,227	0.643		
1972	2,985,557	2,133,556	2,133,556	0.715		
1973	3,093,441	1,621,558	1,621,558	0.524		
1974	3,560,212	13,967,044	2,609,635	0.733	1.302	1.888
1975	4,462,184	1,769,038	1,769,038	0.396		
1976	5,603,638	3,262,514	3,262,514	0.582		
1977	7,024,353	2,502,338	2,502,338	0.356		
1978	8,050,333	3,943,688	3,943,688	0.490		
1979	8,414,223	2,746,069	2,746,069	0.326		
1990	7,857,336	2,822,592	2,822,592	0.359		
1991	7,817,895	4,303,142	2,988,706	0.382	0.151	0.017
1992	7,449,027	1,415,272	1,415,272	0.190		
1993	6,684,933	6,440,078	3,339,548	0.500	0.370	0.093
1994	6,656,928	2,359,935	2,359,935	0.355		
1995	7,232,154	5,109,045	3,071,787	0.425	0.241	0.040
1996	6,755,949	11,763,343	5,109,194	0.756	0.619	0.366
1997	6,245,298	2,757,217	2,757,217	0.441		
1998	5,832,945	30,675,204	4,599,758	0.789	1.552	2.918
1999	6,519,723	4,024,396	3,863,647	0.593	0.024	

KENTUCKY  
TABLE 31A

DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER

	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	STATE EXCESS LOSS RATIO	REGIONAL EXCESS LOSS RATIO
1990	7,857,336	2,822,592	2,822,592	0.359		
1991	7,817,895	4,303,142	2,988,706	0.382	0.151	0.017
1992	7,449,027	1,415,272	1,415,272	0.190		
1993	6,684,933	6,440,078	3,339,548	0.500	0.370	0.093
1994	6,656,928	2,359,935	2,359,935	0.355		
1995	7,232,154	5,109,045	3,071,787	0.425	0.241	0.040
1996	6,755,949	11,763,343	5,109,194	0.756	0.619	0.366
1997	6,245,298	2,757,217	2,757,217	0.441		
1998	5,832,945	30,675,204	4,599,758	0.789	1.552	2.918
1999	6,519,723	4,024,396	3,863,647	0.593	0.024	
2000	7,135,275	17,379,299	4,077,147	0.571	0.869	0.996
2001	7,616,451	5,214,212	3,845,778	0.505	0.162	0.018
2002	9,646,698	14,403,443	6,936,971	0.719	0.523	0.251
2003	9,735,606	4,465,913	3,645,364	0.374	0.080	0.005
2004	12,041,721	5,252,857	5,252,857	0.436		
2005	12,909,531	5,692,847	4,624,117	0.358	0.079	0.004
2007	21,201,558	16,407,396	14,799,400	0.698	0.073	0.003
2008	15,288,674	22,062,594	13,079,255	0.855	0.474	0.114
2009	15,630,263	43,555,719	14,193,703	0.908	1.078	0.801
2010	15,777,719	5,816,575	5,816,575	0.369		
2011	15,383,330	16,397,587	12,162,783	0.791	0.250	0.025
2012	16,342,676	65,784,997	12,084,917	0.739	1.675	1.611
2013	18,056,189	7,990,169	7,990,169	0.443		
2014	20,022,674	7,013,789	7,013,789	0.350		
2015	21,419,935	10,823,421	10,823,421	0.505		
2016	21,983,669	13,407,776	9,711,754	0.442	0.153	0.015
2017	23,794,819	20,996,861	14,954,030	0.628	0.233	0.021
TOTALS				32.774	10.675	9.524

- (7) STATE EXCESS COMPONENT = (SELR / NLR) = 0.326
- (8) REGIONAL EXCESS COMPONENT = 0.080
- (9) STATE EXCESS MULTIPLIER = (1 + SEC) \* (1 + REC) = 1.432

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



KENTUCKY

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	4,434,606	1,929,271	1,929,271	0.435	
1987	5,139,456	1,314,622	1,314,622	0.256	
1988	5,170,620	2,473,742	2,473,742	0.478	
1989	4,963,548	2,979,486	2,979,486	0.600	
1990	5,383,290	5,485,957	3,565,026	0.662	0.357
1991	6,192,624	3,109,139	3,109,139	0.502	
1992	6,479,190	4,110,535	4,110,535	0.634	
1993	5,821,956	4,991,794	4,991,794	0.857	
1994	5,154,594	10,967,464	3,992,795	0.775	1.353
1995	5,166,249	3,556,217	3,556,217	0.688	
1996	5,485,884	7,114,489	5,915,007	1.078	0.219
1997	5,503,380	4,728,176	3,801,666	0.691	0.168
1998	5,428,914	9,469,071	4,307,631	0.793	0.951
1999	5,939,388	5,340,200	4,479,479	0.754	0.145
2000	7,458,549	8,306,222	4,849,811	0.650	0.464
2001	8,249,958	5,455,053	5,455,053	0.661	
2002	9,724,122	5,223,701	5,223,701	0.537	
2003	12,196,857	5,379,475	5,379,475	0.441	
2004	14,717,709	5,260,254	5,260,254	0.357	
2005	15,403,215	12,572,919	5,899,587	0.383	0.433
2006	15,717,960	6,839,878	6,839,878	0.435	
2007	16,223,352	5,984,144	5,984,144	0.369	
2008	14,265,687	5,026,008	5,026,008	0.352	
2009	15,521,577	17,254,819	10,689,910	0.689	0.423
2010	16,498,722	10,213,207	10,193,596	0.618	0.001
2011	16,504,830	11,902,125	11,902,125	0.721	
2012	16,867,896	12,541,696	12,541,696	0.744	
2013	17,284,188	7,237,286	7,237,286	0.419	
2014	18,385,600	13,953,843	10,435,963	0.568	0.191
2015	19,025,565	31,682,899	15,848,277	0.833	0.832
2016	19,080,007	6,012,593	6,012,593	0.315	
2017	19,615,686	6,639,181	6,639,181	0.338	
TOTALS		245,055,466	191,944,948	18.633	5.537

(6) STATE EXCESS COMPONENT = (SELR / NLR) = 0.297

(7) STATE EXCESS MULTIPLIER = (1 + SEC) = 1.297

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.

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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	511,776
(5)	FIVE YEAR AGGREGATE LOSS COSTS	141,526,974
(6)	AGGREGATE LOSS COSTS PER EARNED RISK (5) / (4)	276.541
(7)	AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,280,516,464
(8)	STATEWIDE CREDIBILITY ((5) / (7)) ** (.5)	33.2%

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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	974,231
(5) TEN YEAR AGGREGATE LOSS COSTS	211,467,932
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	217.061
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	916,859,152
(8) STATEWIDE CREDIBILITY ( (5)/(7) ) ** (.5)	48.0%

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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	487,150
(5) FIVE YEAR AGGREGATE LOSS COSTS	75,723,023
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5) / (4)	155.441
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	667,914,433
(8) STATEWIDE CREDIBILITY ( (5) / (7) ) ** (.5)	33.7%

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)).



KENTUCKY  
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

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.

KENTUCKY  
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	18,786,333	17,932,206	0.955
2014	20,039,742	13,925,743	0.695
2015	21,132,193	13,664,236	0.647
2016	21,558,214	23,596,143	1.095
2017	22,076,936	26,756,207	1.212

KENTUCKY  
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	8,225,084	22,062,594	2.682
2009	8,408,906	43,555,719	5.180
2010	8,488,387	5,816,575	0.685
2011	8,275,565	16,397,660	1.981
2012	8,791,347	65,784,997	7.483
2013	9,717,950	7,990,169	0.822
2014	10,775,534	7,013,789	0.651
2015	11,524,681	10,823,421	0.939
2016	11,819,188	13,407,776	1.134
2017	12,794,690	20,996,861	1.641

KENTUCKY  
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	9,301,311	7,237,286	0.778
2014	9,892,734	13,953,843	1.411
2015	10,235,047	31,682,899	3.096
2016	10,254,524	6,012,593	0.586
2017	10,542,740	6,613,181	0.627

KENTUCKY  
COMMERCIAL PROPERTY  
LOSS COST LEVEL REVIEW  
ACTUARIAL ANALYSIS SUPPLEMENT

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PURPOSE

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

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MONOLINE  
INDICATIONS

The indicated statewide monoline changes are:

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>
Basic Group I	-3.7%	-9.0%
Basic Group II	+2.8%	-0.4%
Special Causes of Loss	-0.8%	+3.3%
All Coverages Combined	-0.9%	-3.4%

The prior review indications were not filed. There has been no change in the Implicit Package Modification Factors since the prior review.

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	-4.1%
02 Apartment and Condominium Contents	-9.4%
03 Office Contents	+9.3%
04 Mercantile, Motel-Hotel, and Institutional Contents	+2.3%
05 Service, Industrial-Processing and Contractors Contents	+4.7%
Personal Property (Contents) Excluding Theft	+1.4%

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.

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## 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%	+2.1%	+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 8.2%, from 0.667 in the prior review to 0.722 in the current review. The increase was due to a higher-than-average experience ratio of 0.920 for 2017 entering the experience period. The monoline relativity increased by 2.8%, due to a lower-than-overall monoline experience ratio of 0.290 for 2012 leaving the experience period and a higher-than-overall monoline experience ratio of 1.340 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	0.722	0.667	1.082
Credibility	0.332	0.341	0.974
Expected Experience Ratio	1.002	0.997	1.005
Coverage Change	0.909	0.884	1.028
Monoline Relativity	1.059	1.030	1.028
Monoline Change	0.963	0.910	1.058

**BASIC GROUP II**

The statewide ten-year average experience ratio, before credibility weighting, increased by 5.0%, from .987 in the prior review to 1.036 in the current review. The increase was due to a higher-than-average experience ratio of 1.436 for 2017 entering the experience period and a lower-than-average experience ratio of 0.894 for 2007 leaving the experience period. The monoline relativity increased by 0.7% since the prior review.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.036	0.987	1.050
Credibility	0.480	0.469	1.023
Expected Experience Ratio	1.008	1.005	1.003
Coverage Change	1.021	0.997	1.024
Monoline Relativity	1.0056	0.9991	1.007
Monoline Change	1.028	0.996	1.032

**SPECIAL CAUSES  
OF LOSS**

The statewide five-year weighted average experience ratio, before credibility weighting, decreased by 9.3%, from 1.081 in the prior review to 0.980 in the current review. The decrease was due to a lower-than-average experience ratio of 0.731 for 2017 entering the experience period and a higher-than-average experience ratio of 1.384 for 2012 leaving the experience period. The monoline relativity decreased by 0.6% since the prior review.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.980	1.081	0.907
Credibility	0.337	0.355	0.949
Expected Experience Ratio	1.005	1.003	1.002
Coverage Change	0.997	1.031	0.967
Monoline Relativity	0.996	1.002	0.994
Monoline Change	0.992	1.033	0.960



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>
5/14/90	5/17/90	Wind, Hail, Tornadoes, Flooding
6/1/90	6/3/90	Wind, Hail, Tornadoes
6/6/90	6/8/90	Wind, Hail, Tornadoes, Flooding
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
7/7/91	7/8/91	Wind, Hail, Tornadoes, Flooding
6/14/92	6/19/92	Wind, Hail, Tornadoes, Flooding
11/12/92	11/13/92	Wind, 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
6/2/93	6/5/93	Wind, Hail, Tornadoes, Flooding
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
4/14/94	4/16/94	Wind, Hail, Tornadoes
6/9/94	6/10/94	Wind, Hail, Tornadoes, Flooding
6/24/94	6/27/94	Wind, Hail, Tornadoes, Flooding
5/13/95	5/15/95	Wind, Hail, Tornadoes, Flooding
5/16/95	5/19/95	Wind, Hail, Tornadoes, Flooding
1/6/96	1/9/96	Wind, Snow, Ice, Freezing, Flooding
1/31/96	2/6/96	Wind, Snow, Ice, Tornadoes, Flooding
4/19/96	4/22/96	Wind, Hail, Tornadoes, Flooding
5/3/96	5/9/96	Wind, Hail, Tornadoes, Flooding
5/24/96	5/29/96	Wind, Hail, Tornadoes, 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
2/2/98	2/5/98	Hail, Snow, Wind, Flooding, Tornadoes
4/15/98	4/17/98	Hail, Wind, Flooding, Tornadoes
5/22/98	5/26/98	Hail, Wind, Flooding, Tornadoes
6/2/98	6/2/98	Hail, Wind, Flooding, Tornadoes
6/11/98	6/15/98	Hail, Wind, Flooding, Tornadoes
6/13/98	6/14/98	Hail, Wind, Flooding, Tornadoes
1/17/99	1/18/99	Hail, Wind, Flooding, Tornadoes
5/3/99	5/7/99	Hail, Wind, Flooding, Tornadoes
6/10/99	6/14/99	Hail, Wind, Flooding, Tornadoes
1/2/00	1/4/00	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
4/6/01	4/12/01	Hail, Wind, Flooding, Tornadoes
10/23/01	10/24/01	Hail, Wind, Flooding, Tornadoes
3/8/02	3/10/02	Hail, Tornadoes, Wind
4/27/02	5/3/02	Flooding, Hail, Tornadoes, Wind

PROPERTY	9/20/02	9/20/02	Flooding, Hail, Tornadoes, Wind
CLAIMS SERVICES	11/9/02	11/10/02	Flooding, Hail, Tornadoes, Wind
INFORMATION	1/13/03	1/25/03	Freezing, Ice, Snow, Wind
(cont'd)	2/14/03	2/18/03	Flooding, Freezing, Ice, Snow, Wind
	2/21/03	2/23/03	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
	11/12/03	11/14/03	Flooding, Hail, Tornadoes, Wind
	5/21/04	5/27/04	Flooding, Hail, Tornadoes, Wind
	5/29/04	6/2/04	Flooding, Hail, Tornadoes, Wind
	7/12/04	7/14/04	Flooding, Hail, Tornadoes, Wind
	12/22/04	12/25/04	Freezing, Ice, Snow, Wind
	4/20/05	4/24/05	Flooding, Hail, Tornadoes, Wind
	11/6/05	11/6/05	Hail, 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
	9/12/08	9/14/08	Hurricane Ike - Flooding, Tornadoes, Wind
	1/26/09	1/28/09	Flooding, Freezing, Ice, Snow
	2/10/09	2/13/09	Flooding, Hail, Tornadoes, Wind
	3/7/09	3/8/09	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
	8/4/09	8/4/09	Flooding, Hail, Wind
	4/30/10	5/3/10	Flooding, Hail, Tornadoes, Wind
	10/26/10	10/28/10	Flooding, Hail, Tornadoes, Wind
	4/3/11	4/5/11	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
	2/28/12	2/29/12	Flooding, Hail, Tornadoes, Wind
	3/2/12	3/3/12	Flooding, Hail, Tornadoes, Wind
	4/28/12	4/29/12	Hail, Tornadoes, Wind
	6/28/12	7/2/12	Flooding, Hail, Tornadoes, Wind
	11/17/13	11/18/13	Flooding, Hail, Tornadoes, Wind
	12/20/13	12/23/13	Freezing, Ice, Snow, Wind
	1/5/14	1/8/14	Freezing, Ice, Snow, Wind
	2/16/15	2/22/15	Freezing, Ice, Snow, Wind
	3/3/15	3/5/15	Flooding, Freezing, Ice, Snow, Wind
	4/2/15	4/3/15	Flooding, Hail, Tornadoes, Wind
	4/7/15	4/10/15	Flooding, Hail, Tornadoes, Wind
	4/24/15	4/28/15	Flooding, Hail, Tornadoes, Wind
	7/12/15	7/14/15	Flooding, Hail, Tornadoes, Wind
	1/22/16	1/24/16	Flooding, Freezing, Ice, Snow, Wind
	5/7/16	5/10/16	Flooding, Hail, Tornadoes, Wind
	7/5/16	7/7/16	Flooding, Hail, Tornadoes, Wind
PROPERTY	2/28/17	3/2/17	Flooding, Hail, Tornadoes, Wind

CLAIMS SERVICES	3/26/17	3/28/17	Hail, Tornadoes, Wind
INFORMATION	4/4/17	4/6/17	Flooding, Hail, Tornadoes, Wind
(cont'd)	4/28/17	55/1/17	Flooding, Hail, Tornadoes, Wind
	5/27/17	5/28/17	Flooding, Hail, Tornadoes, 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.

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