



LOSS COSTS – IMPLEMENTATION

MAY 14, 2019

COMMERCIAL PROPERTY

LI-CF-2019-031

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

KEY MESSAGE

Revised advisory prospective loss costs reflecting a statewide loss cost level change of **-6.2%** to be implemented.

BACKGROUND

In circular [LI-CF-2019-018](#), we provided you with information about the Commercial Fire and Allied Lines loss cost level experience review.

ISO ACTION

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

SUPPLEMENTARY INFORMATION

We are including the following supplementary information:

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

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

EFFECTIVE DATE

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

These changes are applicable to all policies written on or after November 1, 2019.

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

IMPACT ON THE STATISTICAL REPORTING OF LOSS COST MULTIPLIER

For the purpose of reporting your company Loss Cost Multiplier under the CSP, as of November 1, 2019, the multiplier must be based on the relationship between your gross rates and the ISO advisory prospective loss costs contained in this circular.

COMPANY ACTION

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

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

WE WILL SUBMIT OUR REFERENCE FILING TO THE INSURANCE DEPARTMENT ON OCTOBER 1, 2019. ANY SUBMISSION YOU MAY MAKE WITH THE INSURANCE DEPARTMENT WITH RESPECT TO THIS FILING SHOULD NOT BE SUBMITTED PRIOR TO THIS DATE.

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

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

RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

POLICYHOLDER NOTIFICATION

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

REVISION DISTRIBUTION INFORMATION

- **Manual And ISO Suite**

We will issue a Notice to Manualholders with an edition date of 11-19 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

- **ProMetrix**

Revised loss costs for specifically rated and class-rated properties contained in ProMetrix will be displayed as "Pending" beginning on June 24, 2019. On November 1, 2019, these loss costs will move to "Current" status. The previous "Current" becomes the most recent "Prior" and joins all previously displayed "Priors". With each subsequent loss cost revision, we will make an additional "Prior" available. Information in ProMetrix will distinguish between loss costs which reflect the effect of limit of insurance (LOI) relativities and pre-LOI loss costs.

- **Toll-free Telephone Service**

Revised loss costs for specifically rated and class-rated properties will be available by calling toll-free 1-800-444-4554 and requesting "Pending" from June 24, 2019 to November 1, 2019. On November 1, 2019, these loss costs will move to "Current" status. The previous "Current" becomes the most recent "Prior" and joins all previously displayed "Priors". With each subsequent loss cost revision, we will make an additional "Prior" available. Information available via toll-free telephone service will distinguish between loss costs which reflect the effect of limit of insurance (LOI) relativities and pre-LOI loss costs.

REFERENCE(S)

- [LI-CF-2019-018](#) (03/13/2019) Commercial Fire And Allied Lines Experience Level Indications Reviewed By ISO Staff
- [LI-CL-2018-044](#) (11/27/2018) Revised Lead Time Requirements Listing

ATTACHMENT(S)

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

FILES AVAILABLE FOR DOWNLOAD

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

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

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DATA QUALITY

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

ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

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

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

AIR WORLDWIDE CORPORATION

This filing incorporates the use of AIR Worldwide Corporation's (AIR) tropical cyclone model to produce hurricane modeled loss costs as part of the Basic Group II ratemaking procedure. AIR is the world's premier risk modeling and technology firm specializing in risks associated with natural and man-made catastrophes, weather and climate. AIR has developed models covering all major natural hazards, including hurricanes and earthquakes, and man-made perils (terrorist events) for more than 40 countries throughout North America, the Caribbean, South America, Europe, and the Asia-Pacific region. AIR provides a full suite of integrated products for underwriting, pricing, portfolio management, risk transfer and financing.

For more information concerning AIR Worldwide Corporation, please see the Contact Information block.

XACTWARE SOLUTIONS, INC.

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

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

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

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

PURPOSE

This document:

- revises advisory prospective loss costs. These loss costs represent a -6.2% statewide change from the current ISO loss costs.
 - provides the analyses used to derive the prospective loss costs based on experience through calendar/accident year ending 03/31/2018, evaluated as of 06/30/2018.
 - incorporates hurricane modeled loss costs based on Touchstone Version 5.0 of AIR Worldwide Corporation's (AIR) tropical cyclone model.
-

DEFINITION OF THE ISO PROSPECTIVE LOSS COST

Advisory prospective loss costs in this document are the expected value of that portion of a rate that does not include provisions for expenses (other than loss adjustment expenses) or profit, and are based on historical aggregate losses and loss adjustment expenses adjusted and projected through trending to a future point in time. The hurricane portion of the prospective Basic Group II loss costs is the expected hurricane loss cost based on AIR Worldwide Corporation's tropical cyclone model and includes a provision for loss adjustment expense.

LOSS COST LEVEL CHANGES

The statewide monoline prospective loss cost level changes are:

Coverage	Filed
Basic Group I	-8.4%
Basic Group II	-0.2%
Special Causes of Loss	-3.8%
Total	-6.2%

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

PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Reference Document or Filing</u>	CF-2018-RLA1	CF-2016-RLA1
<u>Rates/ Loss Costs</u>	Loss Costs	Loss Costs
<u>Dates Implemented</u>	11/01/2018	01/01/2017
<u>Changes</u>		
Basic Group I	-8.1%	+5.2%
Basic Group II	-2.6%	+5.6%
Special Causes of Loss	-3.5%	+2.0%
Total	-6.3%	+4.4%

HISTORICAL SOURCE DATA

The data used in this revision is:

- Voluntary experience for ISO reporting companies.
 - Five calendar/accident years ending 03/31/2018 for Basic Group I and Special Causes of Loss.
 - Ten calendar/accident years ending 03/31/2018 for Basic Group II.
-

DISTRIBUTION OF STATEWIDE MONOLINE LOSS COST CHANGES

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

- by rating group and territory (where applicable) for Basic Group I.
- by territory, coverage and symbol (where applicable) for Basic Group II.
- 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, and based on the hurricane model for Basic Group II. Therefore, the resulting changes will vary by rating group and territory (where applicable) for Basic Group I; by territory, coverage, and symbol (where applicable) for Basic Group II; and by category for Special Causes of Loss.

TREND AND
OTHER
ADJUSTMENTS

Loss Trend

For trend purposes, the period of use for this revision is assumed to begin on 10/01/2019. 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 2017.

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

<u>Coverage</u>	<u>Annual Rate of Change</u>
Buildings	2.9%
Contents	1.7%
Time Element	1.1%

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	-0.3%	0.7%	2.8%
Basic Group II	0.2%	0.6%	2.6%
Special Causes of Loss	0.2%	0.0%	2.8%

This produces a total annual loss trend of:

<u>Line of Business</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>
Basic Group I	2.6%	2.4%	3.9%
Basic Group II	3.1%	2.3%	3.7%
Special Causes of Loss	3.1%	1.7%	3.9%

Premium Trend

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

TREND AND
OTHER
ADJUSTMENTS
(cont'd)

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

Buildings	2.6%
Contents	1.9%
Time Element	0.6%

Other Adjustments

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

TEN LARGEST
COMPANY
GROUPS IN
ISO DATA BASE

COMMERCIAL MULTIPERIL - NON-LIABILITY (ASLOB 51)

1. Vermont Mutual Insurance Company
2. Patrons Co-operative Fire Insurance Company
3. Cincinnati Insurance Company
4. Travelers Indemnity Company
5. Tokio Marine Insurance Company
6. Liberty Mutual Insurance Company
7. Concord General Mutual Insurance Company
8. Frankenmuth Mutual Insurance Company
9. NGM Insurance Company
10. Country Mutual Insurance Company

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

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

SIZE OF ISO
DATA BASE

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

Commercial Multi-peril - Non-liability (ASLOB 51) - 52.9%

COMPANY

We encourage each insurer to decide independently whether the judgments made and

DECISION

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.

This material has been developed by ISO staff. ISO staff has relied on information, and unique knowledge and expertise, provided by AIR Worldwide Corporation (a wholly-owned subsidiary of Insurance Services Office, Inc.) for the derivation of the modeled hurricane loss costs used in this document.

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COMMERCIAL PROPERTY INSURANCE

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

COVERAGE	INDICATIONS	AGGREGATE LOSS COSTS AT CURRENT LEVEL
BASIC GROUP I	-8.4%	6,008,809
BASIC GROUP II	-0.2%	1,191,461
SPECIAL CAUSES OF LOSS	-3.8%	2,641,457
ALL COVERAGES COMBINED	-6.2%	9,841,727

(A) FOR TREND PURPOSES, THE PERIOD OF USE FOR THIS REVISION IS ASSUMED TO BEGIN ON 10/01/2019.

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

RATING GROUP DESCRIPTION	ENTIRE STATE

	INDICATED
01 APARTMENTS	-4.5%
02 OTHER HABITATIONAL	-4.7%
03 RESTAURANTS & BARS	-8.0%
04 OTHER MERCANTILE RISKS	-13.2%
05 PUBLIC BUILDINGS	-7.0%
06 CHURCHES	-11.1%
07 SCHOOLS	-8.3%
08 OFFICES AND BANKS	-9.3%
09 RECREATIONAL FACILITIES	-7.5%
10 HOTELS & MOTELS	-7.7%
11 HOSPITALS & NURSING HOMES	-6.7%
12 BLDGS UNDER CONSTRUCTION	-7.5%
13 MOTOR VEHICLE RISKS	-7.0%
14 OTHER NON-MANUFACTURING	-7.5%
15 STORAGE	-7.7%
17 FOOD MANUFACTURING	-5.7%
18 WOOD MANUFACTURING	-6.0%
19 WEARING APPAREL	-3.3%
20 CHEMICAL MANUFACTURING	-3.3%
21 METAL MANUFACTURING	-6.4%
22 OTHER MANUFACTURING	-3.3%
TOTAL	-8.4%

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

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 TABLE 2B
 BASIC GROUP II PROSPECTIVE LOSS COST CHANGES
 BY TERRITORY, COVERAGE, AND SYMBOL

TERRITORY

Entire State

COVERAGE	SYMBOL	

BUILDINGS	AA	+0.0%
	A	+0.0%
	AB	-3.6%
	B	+0.0%
CONTENTS	AA	-3.7%
	A	-3.3%
	AB	-2.9%
	B	+0.0%
	TOTAL	-0.2%

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

CATEGORY DESCRIPTION	ENTIRE STATE
-----	-----
01 BUILDINGS	-6.1%
02 RES. APTS. AND CONDOS	+0.0%
03 OFFICES	+2.8%
04 MERCANTILE - HIGH	+5.5%
05 MERCANTILE - MEDIUM	+2.7%
06 MERCANTILE - LOW	+2.3%
07 MOTELS AND HOTELS	+4.6%
08 INSTITUTIONAL - HIGH	+0.1%
09 INSTITUTIONAL - LOW	+0.8%
10 INDUST-PROC - HIGH	+3.6%
11 INDUST-PROC - LOW	-0.1%
12 SERVICE - HIGH	+1.4%
13 SERVICE - LOW	+2.2%
14 CONTRACTORS	+2.3%
STATEWIDE TOTAL	-3.8%

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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	-7.7%	+0.0%	-2.6%
32	APARTMENT	-4.6%	-0.1%	-4.6%
33	OFFICE	-9.3%	-0.3%	-3.8%
34	MERCANTILE	-11.0%	-0.2%	-3.6%
35	INSTITUTIONAL	-9.7%	-0.2%	-3.0%
36	SERVICES	-7.9%	-0.2%	-4.0%
37	INDUST/PROCESSING	-5.5%	-0.5%	-3.9%
38	CONTRACTORS	-12.5%	+0.0%	-3.0%

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

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COMMERCIAL PROPERTY INSURANCE

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OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

INTRODUCTION

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

STEP 1: DETERMINATION OF INDICATED STATEWIDE LOSS COST LEVEL CHANGE

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

STEP 2: DISTRIBUTION OF CHANGES

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

STEP 3: CALCULATION OF REVISED LOSS COSTS

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

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

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

VERMONT
TABLE 5

STATEWIDE BASIC GROUP I
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	EXPERIENCE RATIO (3) / (2)	WEIGHTS
2014	6,354,873	4,056,418	0.638	0.10
2015	6,235,473	9,476,244	1.520	0.15
2016	6,455,598	3,652,260	0.566	0.20
2017	6,187,655	661,977	0.107	0.25
2018	6,008,809	1,952,386	0.325	0.30

(6) WEIGHTED EXPERIENCE RATIO	= 0.530
(7) CREDIBILITY	= 0.250
(8) EXPECTED EXPERIENCE RATIO	= 1.005
(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO (0.250 X 0.530) + (0.750 X 1.005)	= 0.886
(10) INDICATED COVERAGE LOSS COST CHANGE	= 0.886
	OR -11.4%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL AND 04/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 10/01/2020 COST LEVELS INCLUDING LOSS DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

VERMONT
TABLE 6

STATEWIDE BASIC GROUP II
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
YEAR	AGGREGATE* LOSS COSTS	NON HURRICANE AGGREGATE LOSS COSTS	ADJUSTED** NON-HURRICANE INCURRED LOSSES	NON HURRICANE EXPERIENCE RATIO (4) / (3)
2009	1,272,439	1,108,121	1,207,552	1.090
2010	1,260,773	1,097,683	1,137,224	1.036
2011	1,218,619	1,060,759	1,330,891	1.255
2012	1,177,935	1,024,521	892,758	0.871
2013	1,246,926	1,084,478	1,152,865	1.063
2014	1,233,853	1,073,740	528,252	0.492
2015	1,244,254	1,083,400	1,616,480	1.492
2016	1,252,508	1,090,871	320,585	0.294
2017	1,189,894	1,036,793	562,189	0.542
2018	1,191,461	1,038,550	1,555,003	1.497

(6) WEIGHTED EXPERIENCE RATIO (EQUAL WEIGHTS) = 0.963

(7) CREDIBILITY = 0.250

(8) EXPECTED EXPERIENCE RATIO = 1.007

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 0.996
(0.250 x 0.963) + (0.750 x 1.007)

(10) INDICATED COVERAGE LOSS COST CHANGE = 0.996

OR -0.4%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 04/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 10/01/2020 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

VERMONT
TABLE 7

STATEWIDE SPECIAL CAUSES OF LOSS
COVERAGE LOSS COST LEVEL EVALUATION

(1) YEAR	(2) AGGREGATE* LOSS COSTS	(3) ADJUSTED** INCURRED LOSSES	(4) EXPERIENCE RATIO (3) / (2)	(5) WEIGHTS
2014	2,782,512	3,230,098	1.161	0.10
2015	2,730,564	3,829,816	1.403	0.15
2016	2,718,846	1,065,053	0.392	0.20
2017	2,584,536	1,966,656	0.761	0.25
2018	2,641,457	1,979,687	0.749	0.30

(6) WEIGHTED EXPERIENCE RATIO = 0.819

(7) CREDIBILITY = 0.250

(8) EXPECTED EXPERIENCE RATIO = 1.005

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO
(0.250 X 0.819) + (0.750 X 1.005) = 0.959

(10) INDICATED COVERAGE LOSS COST CHANGE = 0.959

OR -4.1%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL AND 04/01/2020 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 10/01/2020 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) - BG II

NON-HURRICANE AGGREGATE LOSS COSTS - BASIC GROUP II ONLY

The non-hurricane aggregate loss costs reflect that portion of the BG II loss cost volume due to perils other than hurricane. These loss costs are calculated by multiplying the total aggregate loss costs for each rating territory, coverage, and symbol by the ratio of the current non-hurricane to current total loss costs found on Table 35.

COLUMN (3) -
BG I, SCL
COLUMN (4) - BG II

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 Basic Group II, losses due to hurricanes reflected in the modeled hurricane loss costs have been removed from the experience and replaced with average non-hurricane losses for each rating territory and loss month.

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.

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

COLUMN (4) - BG I, SCL EXPERIENCE RATIO
COLUMN (5) - BG II

The experience ratio is the ratio of adjusted incurred losses to aggregate loss costs for each year. For BG II, the experience ratio is a measure of non-hurricane experience only. It is the ratio of the adjusted non-hurricane incurred losses to the non-hurricane aggregate loss costs.

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) WEIGHTED EXPERIENCE RATIO

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) CREDIBILITY

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) EXPECTED EXPERIENCE RATIO

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.

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

LINE (9) CREDIBILITY WEIGHTED EXPERIENCE RATIO

The credibility weighted experience ratio is a weighted average of the weighted experience ratio (line (6)) and the expected experience ratio (line (8)) 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) INDICATED COVERAGE LOSS COST CHANGE

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.

For BG II, losses due to hurricanes with wind speeds of 40 miles per hour or greater have been excluded and replaced with average non-hurricane losses for each BG II rating territory and loss month.

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

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?

BASIC GROUP I

For Basic Group I, a consolidated simultaneous iterative procedure is used to calculate the type of policy 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 relativities serve to price the various rating groups relative to one another.

The indicated monoline loss cost level changes displayed on Table 2 are calculated for each rating group by taking the product of the monoline type of policy relativity, the rating group relativity and the statewide loss cost level change.

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

BASIC GROUP II

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 statewide monoline non-hurricane loss cost change is the product of the monoline normalized formula relativity, shown on Table 12 and the indicated statewide loss cost level change. This change is applied to the non-hurricane portion of the BG II loss costs to produce indicated non-hurricane loss costs. The indicated loss costs by territory, coverage, and symbol are equal to the sum of the indicated non-hurricane loss costs plus the hurricane modeled loss costs.

OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

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

BASIC GROUP II
(cont'd)

The overall monoline loss cost level change is the weighted average of the loss cost changes by territory, coverage and symbol. In calculating this weighted average, the latest year aggregate monoline and multiline combined loss costs at current level are used as weights.

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 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.

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TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 0.886 OR -11.4%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
10	2.140	0.039	1.030	1.034	
31	0.777	0.016	0.996	0.999	
32	0.571	0.037	0.979	0.983	
33	0.834	0.014	0.997	1.001	
34	1.154	0.044	1.006	1.010	
35	1.057	0.058	1.003	1.007	
36	0.802	0.041	0.991	0.994	
37	0.277	0.033	0.959	0.962	
38	0.930	0.019	0.999	1.002	

RATING GROUP					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE
01	1.430	0.066	1.024	1.042	-4.5
02	1.874	0.036	1.023	1.040	-4.7
03	0.627	0.029	0.987	1.004	-8.0
04	0.580	0.132	0.931	0.947	-13.2
05	0.725	0.007	0.998	1.015	-7.0
06	0.561	0.082	0.954	0.970	-11.1
07	0.616	0.033	0.984	1.001	-8.3
08	0.687	0.071	0.974	0.990	-9.3
09	0.841	0.043	0.993	1.010	-7.5
10	0.793	0.043	0.990	1.007	-7.7
11	1.121	0.011	1.001	1.018	-6.7
13	0.960	0.048	0.998	1.015	-7.0
14	0.737	0.024	0.993	1.010	-7.5
15	0.619	0.021	0.990	1.007	-7.7
17	1.989	0.017	1.012	1.029	-5.7
18	1.653	0.018	1.009	1.026	-6.0
21	1.364	0.014	1.004	1.022	-6.4
22	2.727	0.036	1.037	1.055	-3.3
STATEWIDE MONOLINE LOSS COST LEVEL CHANGE					-8.4%

VERMONT

TABLE 8 - BASIC GROUP I RELATIVITY ANALYSIS

EXAMPLE OF AN INDIVIDUAL LOSS COST CHANGE CALCULATION
FOR ENTIRE STATE

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	-11.4%
TERRITORIAL RELATIVITY	=	1.000
MONOLINE (TOP 10) RELATIVITY	=	1.034
RATING GROUP 01 RELATIVITY	=	1.042

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR RATING GROUP 01

$$= 0.886 \quad \times \quad 1.000 \quad \times \quad 1.034 \quad \times \quad 1.042 \quad = \quad 0.955$$

OR -4.5%

VERMONT

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	STATEWIDE COVERAGE LOSS COST CHANGE OF 0.959 OR -4.1%
TOP	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	Z-WTD. RELATIVITY	BALANCED RELATIVITY	
10	1.024	0.036	1.001	1.004	
31	0.670	0.018	0.993	0.996	
32	1.035	0.059	1.002	1.005	
33	0.568	0.021	0.988	0.991	
34	0.619	0.064	0.970	0.973	
35	1.616	0.042	1.020	1.024	
36	1.488	0.040	1.016	1.019	
37	0.655	0.026	0.989	0.992	
38	1.295	0.015	1.004	1.007	
					(5)
					INDICATED MONOLINE LOSS COST LEVEL CHANGE
CATEGORY					
01	0.803	0.372	0.922	0.975	-6.1
02	0.702	0.052	0.982	1.039	+0.0
03	1.525	0.022	1.009	1.068	+2.8
04	3.166	0.030	1.035	1.096	+5.5
05	1.694	0.016	1.008	1.067	+2.7
06	1.335	0.011	1.003	1.062	+2.3
07	3.871	0.019	1.026	1.086	+4.6
08	0.583	0.033	0.982	1.040	+0.1
09	0.720	0.032	0.990	1.047	+0.8
10	7.455	0.008	1.016	1.076	+3.6
11	0.372	0.020	0.980	1.038	-0.1
12	0.808	0.023	0.995	1.053	+1.4
13	1.201	0.013	1.002	1.061	+2.2
14	1.323	0.017	1.005	1.063	+2.3
OVERALL MONOLINE LOSS COST LEVEL CHANGE					-3.8%

VERMONT

TABLE 9 - SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

EXAMPLE OF A LOSS COST CHANGE CALCULATION

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE = -4.1%

MONOLINE (TOP 10) RELATIVITY = 1.004

CATEGORY 01 RELATIVITY = 0.975

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR CATEGORY 01

= 0.959 X 1.004 X 0.975 = 0.939
OR -6.1%

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 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 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 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:

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

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

SPECIAL CAUSES OF LOSS:

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

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

- 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;

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

COLUMN (1)
(cont'd)

- W_{ij} is the loss cost volume at current level for the i th type of policy, and j th rating group;
- R_{ij} is the experience ratio relativity for the i th type of policy, and j th rating group or category;
- m is the number of types of policy in the analysis;
- n is the number of rating groups or categories 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 relativities is 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 \$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.

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.

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

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 by taking the product of the monoline type of policy (TOP 10) 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. 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.

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.

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

COLUMN (5)
(cont'd)

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.

Entire State (Vermont)

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
10 MONOLINE	01 APARTMENTS	51,583	194,333	0.595	1.307	2.062
	02 OTHER HABITATIONAL	57,109	306,500	7.871	3.430	5.410
	03 RESTAURANTS & BARS	14,805	147,853	0.000	1.185	1.869
	04 OTHER MERCANTILE RS	187,286	1,025,167	0.166	0.877	1.383
	05 PUBLIC BUILDINGS	17,285	49,668	0.120	1.276	2.013
	06 CHURCHES	11,929	69,042	0.000	1.239	1.954
	07 SCHOOLS	46,999	126,184	0.035	1.207	1.904
	08 OFFICES AND BANKS	68,620	381,864	0.123	1.088	1.716
	09 REC. FACILITIES	60,303	275,472	0.542	1.261	1.989
	10 HOTELS AND MOTELS	19,547	104,500	0.000	1.214	1.915
	11 HOSPITALS/NURS HOME	41,854	175,771	0.055	1.180	1.861
	13 MOTOR VEHICLE RISKS	66,991	374,050	0.988	1.369	2.159
	14 OTHER NON-MANUF.	44,671	235,925	0.320	1.216	1.918
	15 STORAGE	29,512	174,646	0.507	1.293	2.039
	17 FOOD MANUFACTURING	9,649	67,832	0.106	1.261	1.989
	18 WOOD MANUFACTURING	8,748	52,517	0.000	1.251	1.973
	21 METAL MANUFACTURING	11,606	48,102	0.000	1.255	1.979
	22 OTHER MANUFACTURING	50,545	228,823	12.247	4.420	6.972
	TOTAL*	799,042	4,038,249	1.594	1.512	2.384
31 MULTILINE MOTEL/HOTEL	10 HOTELS AND MOTELS	274,692	1,674,407	0.180	0.442	0.697
	TOTAL*	274,692	1,674,407	0.180	0.442	0.697
32 MULTILINE APARTMENT	01 APARTMENTS	597,957	2,634,996	0.971	0.610	0.962
	02 OTHER HABITATIONAL	210,015	1,184,003	1.079	0.614	0.968
	TOTAL*	807,972	3,818,999	0.999	0.611	0.964
33 MULTILINE OFFICE	08 OFFICES AND BANKS	342,079	1,470,077	0.012	0.411	0.648
	TOTAL*	342,079	1,470,077	0.012	0.411	0.648
34 MULTILINE MERCANTILE	03 RESTAURANTS & BARS	155,899	912,658	0.549	0.515	0.812
	04 OTHER MERCANTILE RS	536,745	2,781,923	0.386	0.480	0.757
	08 OFFICES AND BANKS	24,133	103,311	0.160	0.451	0.711
	13 MOTOR VEHICLE RISKS	70,792	260,263	3.045	0.925	1.459
	14 OTHER NON-MANUF.	25,944	119,304	0.000	0.425	0.670
	15 STORAGE	91,804	400,866	0.019	0.425	0.670
	TOTAL*	905,317	4,578,325	0.568	0.513	0.809

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) Z-WEIGHTED EXPERIENCE RATIO	(5) Z-WEIGHTED RELATIVITY
35 MULTILINE INSTITUTIONAL	02 OTHER HABITATIONAL	2,259	13,551	0.182	0.456	0.719
	05 PUBLIC BUILDINGS	39,525	241,041	0.386	0.487	0.768
	06 CHURCHES	631,082	3,487,114	0.164	0.425	0.670
	07 SCHOOLS	221,546	1,224,932	0.167	0.443	0.699
	08 OFFICES AND BANKS	97,595	442,919	0.039	0.428	0.675
	09 REC. FACILITIES	50,533	233,119	0.028	0.429	0.677
	11 HOSPITALS/NURS HOME	59,876	262,316	5.840	1.385	2.185
	13 MOTOR VEHICLE RISKS	5,643	53,144	0.000	0.426	0.672
	14 OTHER NON-MANUF.	47,408	196,882	0.000	0.424	0.669
	TOTAL*	1,155,467	6,155,018	0.442	0.481	0.758
36 MULTILINE SERVICES	03 RESTAURANTS & BARS	11,407	119,312	0.000	0.405	0.639
	04 OTHER MERCANTILE RS	69,963	388,348	1.689	0.702	1.107
	08 OFFICES AND BANKS	54,273	323,832	0.000	0.394	0.621
	09 REC. FACILITIES	248,764	1,283,145	0.556	0.500	0.789
	13 MOTOR VEHICLE RISKS	208,896	1,328,966	0.774	0.559	0.882
	14 OTHER NON-MANUF.	82,218	355,109	0.269	0.442	0.697
	15 STORAGE	58,973	292,293	0.200	0.431	0.680
	21 METAL MANUFACTURING	2,519	11,200	0.000	0.411	0.648
	22 OTHER MANUFACTURING	27,721	118,703	0.000	0.405	0.639
	TOTAL*	764,734	4,220,908	0.591	0.510	0.805
37 MULTILINE INDUST/PROCESS	04 OTHER MERCANTILE RS	48,652	286,186	0.465	0.477	0.752
	08 OFFICES AND BANKS	9,478	87,988	0.000	0.406	0.640
	13 MOTOR VEHICLE RISKS	0	613	0.000	0.411	0.648
	14 OTHER NON-MANUF.	2,214	25,621	0.000	0.410	0.647
	15 STORAGE	0	8,381	0.000	0.411	0.648
	17 FOOD MANUFACTURING	122,356	631,992	0.486	0.481	0.759
	18 WOOD MANUFACTURING	123,767	675,725	0.000	0.378	0.596
	21 METAL MANUFACTURING	84,144	510,538	0.049	0.395	0.623
	22 OTHER MANUFACTURING	271,267	1,160,771	0.616	0.514	0.811
	TOTAL*	661,878	3,387,815	0.383	0.463	0.730
38 MULTILINE CONTRACTORS	04 OTHER MERCANTILE RS	247,191	1,600,139	0.112	0.373	0.588
	08 OFFICES AND BANKS	44,462	262,760	2.471	0.821	1.295
	14 OTHER NON-MANUF.	5,975	35,711	0.000	0.409	0.645
	TOTAL*	297,628	1,898,610	0.462	0.440	0.695

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 03/31/18 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	649,540	2,829,329	0.941	0.665	1.049
	02 OTHER HABITATIONAL	269,383	1,504,054	2.511	1.210	1.908
	03 RESTAURANTS & BARS	182,111	1,179,823	0.470	0.562	0.887
	04 OTHER MERCANTILE RS	1,089,837	6,081,763	0.373	0.538	0.849
	05 PUBLIC BUILDINGS	56,810	290,709	0.305	0.727	1.147
	06 CHURCHES	643,011	3,556,156	0.161	0.440	0.694
	07 SCHOOLS	268,545	1,351,116	0.144	0.577	0.910
	08 OFFICES AND BANKS	640,640	3,072,751	0.203	0.515	0.812
	09 REC. FACILITIES	359,600	1,791,736	0.479	0.618	0.974
	10 HOTELS AND MOTELS	294,239	1,778,907	0.168	0.493	0.778
	11 HOSPITALS/NURS HOME	101,730	438,087	3.460	1.301	2.052
	13 MOTOR VEHICLE RISKS	352,322	2,017,036	1.259	0.784	1.237
	14 OTHER NON-MANUF.	208,430	968,552	0.175	0.600	0.947
	15 STORAGE	180,289	876,186	0.158	0.569	0.898
	17 FOOD MANUFACTURING	132,005	699,824	0.458	0.538	0.849
	18 WOOD MANUFACTURING	132,515	728,242	0.000	0.436	0.687
	21 METAL MANUFACTURING	98,269	569,840	0.042	0.497	0.784
	22 OTHER MANUFACTURING	349,533	1,508,297	2.249	1.071	1.688
	TOTAL*	6,008,809	31,242,408	0.666	0.634	1.000

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

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

TYPE OF POLICY	CATEGORY	(1)	(2)	(3)	(4)
		ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	5 - YEAR AGGREGATE LOSS COSTS	5 - YEAR EXPERIENCE RATIO	RELATIVITY
10 MONOLINE	01 BUILDINGS	216,668	1,025,244	0.838	0.973
	02 RES. APTS. AND COND	11,595	61,454	0.186	0.216
	03 OFFICES	10,265	65,756	0.420	0.488
	04 MERCANTILE - HIGH	13,915	72,043	0.653	0.758
	05 MERCANTILE - MEDIUM	2,161	20,590	0.352	0.409
	06 MERCANTILE - LOW	3,857	16,548	0.184	0.214
	07 MOTELS AND HOTELS	1,005	8,624	0.000	0.000
	08 INSTITUTIONAL - HIG	4,392	13,595	3.911	4.542
	09 INSTITUTIONAL - LOW	14,657	76,137	0.000	0.000
	10 INDUST-PROC - HIGH	2,583	15,622	1.091	1.267
	11 INDUST-PROC - LOW	11,188	48,848	0.000	0.000
	12 SERVICE - HIGH	5,283	31,432	1.484	1.724
	13 SERVICE - LOW	6,038	41,343	1.195	1.388
	14 CONTRACTORS	739	3,767	0.000	0.000
	TOTAL*	304,346	1,501,003	0.768	0.892
31 MULTILINE MOTEL/HOTEL	01 BUILDINGS	93,459	472,065	0.508	0.590
	07 MOTELS AND HOTELS	46,465	281,080	2.467	2.865
	TOTAL*	139,924	753,145	1.159	1.346
32 MULTILINE APARTMENT	01 BUILDINGS	390,191	1,726,209	0.790	0.918
	02 RES. APTS. AND COND	132,493	764,755	0.695	0.807
	TOTAL*	522,684	2,490,964	0.766	0.890
33 MULTILINE OFFICE	01 BUILDINGS	142,156	569,841	0.414	0.481
	03 OFFICES	48,868	265,481	0.909	1.056
	08 INSTITUTIONAL - HIG	609	2,884	0.000	0.000
	TOTAL*	191,633	838,206	0.539	0.626
34 MULTILINE MERCANTILE	01 BUILDINGS	397,861	1,953,565	0.453	0.526
	03 OFFICES	1,843	9,085	0.000	0.000
	04 MERCANTILE - HIGH	65,656	388,642	2.044	2.374
	05 MERCANTILE - MEDIUM	38,448	229,535	1.004	1.166
	06 MERCANTILE - LOW	26,421	148,880	0.825	0.958
	08 INSTITUTIONAL - HIG	0	998	0.000	0.000
	12 SERVICE - HIGH	91	1,152	0.000	0.000
	13 SERVICE - LOW	0	1,804	0.000	0.000
	14 CONTRACTORS	2,084	9,067	0.000	0.000
	TOTAL*	532,404	2,742,728	0.704	0.818

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

TYPE OF POLICY	CATEGORY	(1)	(2)	(3)	(4)
		ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	5 - YEAR AGGREGATE LOSS COSTS	5 - YEAR EXPERIENCE RATIO	RELATIVITY
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	173,191	887,098	1.227	1.425
	03 OFFICES	0	228	0.000	0.000
	08 INSTITUTIONAL - HIG	88,072	494,339	0.890	1.034
	09 INSTITUTIONAL - LOW	65,192	365,243	1.169	1.358
	12 SERVICE - HIGH	133	664	0.000	0.000
	14 CONTRACTORS	59	235	0.000	0.000
	TOTAL*	326,647	1,747,807	1.124	1.305
36 MULTILINE SERVICES	01 BUILDINGS	223,410	1,153,086	1.140	1.324
	03 OFFICES	156	239	0.000	0.000
	04 MERCANTILE - HIGH	97	691	0.000	0.000
	06 MERCANTILE - LOW	44	171	0.000	0.000
	08 INSTITUTIONAL - HIG	808	4,051	0.000	0.000
	09 INSTITUTIONAL - LOW	13,540	48,647	0.000	0.000
	11 INDUST-PROC - LOW	5	114	0.000	0.000
	12 SERVICE - HIGH	47,704	324,173	1.137	1.321
	13 SERVICE - LOW	22,490	147,330	1.698	1.972
	14 CONTRACTORS	129	1,433	0.000	0.000
	TOTAL*	308,383	1,679,935	1.126	1.308
37 MULTILINE INDUST/PROC	01 BUILDINGS	147,454	730,642	0.471	0.547
	10 INDUST-PROC - HIGH	16,688	103,914	4.872	5.659
	11 INDUST-PROC - LOW	52,577	254,112	0.257	0.298
	12 SERVICE - HIGH	0	57	0.000	0.000
TOTAL*	216,719	1,088,725	0.758	0.880	
38 MULTILINE CONTRACTORS	01 BUILDINGS	62,001	377,583	0.988	1.148
	03 OFFICES	113	367	0.000	0.000
	04 MERCANTILE - HIGH	0	18	0.000	0.000
	14 CONTRACTORS	36,603	237,434	1.631	1.894
	TOTAL*	98,717	615,402	1.225	1.423

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

TYPE OF POLICY	CATEGORY	(1)	(2)	(3)	(4)
		ACCIDENT YEAR ENDING 03/31/18 AGGREGATE LOSS COSTS	5 - YEAR AGGREGATE LOSS COSTS	5 - YEAR EXPERIENCE RATIO	RELATIVITY
TOTAL ALL TOPS*	01 BUILDINGS	1,846,391	8,895,333	0.744	0.864
	02 RES. APTS. AND COND	144,088	826,209	0.654	0.760
	03 OFFICES	61,245	341,156	0.796	0.925
	04 MERCANTILE - HIGH	79,668	461,394	1.799	2.089
	05 MERCANTILE - MEDIUM	40,609	250,125	0.969	1.125
	06 MERCANTILE - LOW	30,322	165,599	0.742	0.862
	07 MOTELS AND HOTELS	47,470	289,704	2.415	2.805
	08 INSTITUTIONAL - HIG	93,881	515,867	1.018	1.182
	09 INSTITUTIONAL - LOW	93,389	490,027	0.816	0.948
	10 INDUST-PROC - HIGH	19,271	119,536	4.365	5.070
	11 INDUST-PROC - LOW	63,770	303,074	0.212	0.246
	12 SERVICE - HIGH	53,211	357,478	1.167	1.355
	13 SERVICE - LOW	28,528	190,477	1.592	1.849
	14 CONTRACTORS	39,614	251,936	1.507	1.750
	TOTAL*	2,641,457	13,457,915	0.861	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>2018 AGGREGATE LOSS COSTS</u></p> <p>The latest accident year aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulas used in the simultaneous review procedure.</p>
COLUMN (2)	<p><u>2014-2018 AGGREGATE LOSS COSTS</u></p> <p>The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).</p>
COLUMN (3)	<p><u>FIVE-YEAR EXPERIENCE RATIOS</u></p> <p>These are the ratios of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in column (1).</p>
COLUMN (4)	<p><u>CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO</u></p> <p>A credibility procedure is applied to the initial experience ratios in column (3) on a cell-by-cell basis prior to the simultaneous review procedure. The credibility values are calculated using an empirical Bayesian credibility procedure. In the following discussion, cell refers to an individual combination of TOP, rating group or category, and territory (where applicable).</p>

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

COLUMN (4)
(cont'd)

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

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

COLUMN (5)

WEIGHTED RELATIVITIES

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

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TABLE 12 - BASIC GROUP II RELATIVITY ANALYSIS

INDICATED TOTAL LOSS COST ADJUSTMENT: +1.8%

	(1) ACCIDENT YR ENDING 03/31/18	(2) ACCIDENT YRS 2009-2018 NON-HURR.	(3) FORMULA RELATIVITY (2) / 0.834	(4) CREDI- BILITY Z C	(5) Z WEIGHTED RELA- TIVITY D	(6) BALANCED FORMULA RELA- TIVITY E	(7) NORMALIZED FORMULA RELA- TIVITY F	(8) CURRENT IMPLICIT PMF	(9) INDICATED IMPLICIT PMF G	(10) INDIC. TOTAL LOSS COST ADJUST
MONOLINE	222,267	0.609	0.730	0.049	0.986	0.986	0.9806			-0.2%
MULTILINE	969,194	0.885	1.061	0.181	1.010	1.010	1.0049			+2.3%
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COVERAGE	1,191,461	0.834	0.999			1.0055 B	1.0004			+1.8%
MULTILINE TOP										
31 MOTEL/HOTEL	48,130	0.527	0.632	0.011	0.995	1.001	0.9955	0.615	0.624	+1.3%
32 APARTMENT	111,761	1.221	1.464	0.020	1.008	1.014	1.0085	0.506	0.520	+2.6%
33 OFFICE	90,972	0.421	0.505	0.015	0.992	0.998	0.9925	0.850	0.860	+1.0%
34 MERCANTILE	193,740	1.004	1.204	0.044	1.008	1.014	1.0085	0.705	0.725	+2.6%
35 INSTITUTIONAL	209,821	1.205	1.445	0.050	1.021	1.027	1.0214	0.636	0.662	+4.0%
36 SERVICES	186,524	0.810	0.971	0.042	0.998	1.004	0.9985	0.850	0.866	+1.6%
37 INDUST/PROCESS	91,010	0.398	0.477	0.021	0.988	0.994	0.9886	0.592	0.597	+0.6%
38 CONTRACTORS	37,236	0.624	0.748	0.010	0.996	1.002	0.9965	0.680	0.691	+1.4%
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	969,194	0.885 B	1.061		1.004 B	1.010 B	1.0049 B			+2.3%

B - AVERAGE WEIGHTED BY COLUMN (1)

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

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

E - (6) = (5) * (1.010/1.004)

F - (7) = (6) / 1.0055

G - (9) = (7) * (8) / (0.9806)

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.

The BG II relativity analysis is based on non-hurricane loss experience only, as it is assumed that type of policy relativities are the same for both non-hurricane and hurricane perils. The resulting relativities apply to the total (hurricane plus non-hurricane) BG II loss costs.

COLUMN (1)

2018 AGGREGATE LOSS COSTS

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

COLUMN (2)

2009 - 2018 NON-HURRICANE EXPERIENCE RATIO

These experience ratios are the ratios of the combined ten-year CSP adjusted incurred non-hurricane 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 non-hurricane 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:

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

For each CPP type of policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is 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 change is the statewide BG II total (hurricane and non-hurricane combined) monoline loss cost change found on Table 35. The multiline change for each TOP is the product of the statewide monoline loss cost change times the ratio of the TOP y relativity divided by the monoline relativity found in column (7).

The overall multiline loss cost level change is a weighted average of the individual multiline TOP changes based on the aggregate loss cost volume shown in column (1). The coverage change is a weighted average of the monoline and average multiline TOP changes based on the aggregate loss cost volume shown in column (1).

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.

VERMONT

COMMERCIAL PROPERTY INSURANCE

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, 16A 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, Table 16A provides rate level/loss cost level histories by territory, coverage, and symbol (where applicable) for Basic Group II, and 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, 14 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*
2000-03-01	-14.8	0.852	0.741	0.838
2001-02-01	-16.1	0.715	0.883	0.915
2002-02-01	-15.5	0.604	1.045	0.915
2004-01-01	-9.2	0.548	1.151	1.000
2007-10-01	-4.0	0.527	1.197	0.252
2008-10-01	-0.2	0.525	1.202	0.251
2009-09-01	5.6	0.555	1.137	0.334
2012-10-01	9.2	0.606	1.041	0.251
2013-10-01	11.4	0.675	0.935	0.252
2014-10-01	-3.3	0.653	0.966	0.252
2017-01-01	5.2	0.687	0.918	1.000
2018-11-01	-8.1	0.631	1.000	0.167

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*
2000-03-01	0.0	1.000	1.597	0.838
2001-02-01	4.8	1.048	1.524	0.915
2002-02-01	4.2	1.092	1.462	0.915
2004-01-01	1.8	1.112	1.436	1.000
2007-10-01	7.6	1.196	1.335	0.252
2008-10-01	4.1	1.245	1.283	0.251
2009-09-01	4.3	1.299	1.229	0.334
2012-10-01	6.6	1.384	1.154	0.251
2013-10-01	6.1	1.469	1.087	0.252
2014-10-01	5.7	1.553	1.028	0.252
2017-01-01	5.6	1.640	0.974	1.000
2018-11-01	-2.6	1.597	1.000	0.167

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*
2000-03-01	-12.9	0.871	0.769	0.838
2001-02-01	-9.5	0.788	0.850	0.915
2002-02-01	1.7	0.802	0.835	0.915
2004-01-01	-1.4	0.790	0.848	1.000
2007-10-01	-12.8	0.689	0.972	0.252
2008-10-01	-0.8	0.684	0.980	0.251
2009-09-01	5.2	0.719	0.932	0.334
2012-10-01	2.6	0.738	0.908	0.251
2013-10-01	-0.6	0.734	0.913	0.252
2014-10-01	-7.2	0.681	0.984	0.252
2017-01-01	2.0	0.694	0.965	1.000
2018-11-01	-3.5	0.670	1.000	0.167

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

These factors are used to bring individual policies with inception dates prior to the effective date up to current loss cost level. The actual loss cost/rate changes vary by rating id, rating group, and territory (where applicable) for Basic Group I, by territory, coverage, and symbol (where applicable) for Basic Group II, and by category for Special Causes of Loss. Consequently, these 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 in detail, refer to Tables 16, 16A 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: Entire State (Vermont)

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
10-01-2007	SPEC.	-7.9	-10.1	-2.7	-4.7	-8.1	-10.8	-9.7	-8.7	-8.2	-8.8	-4.8	-4.8	-5.3	-4.8	-7.4	-8.8	-9.3	-6.2	-6.2	-7.6	-6.2
	CLASS	-1.8	-4.1	3.7	1.6	-2.0	-4.9	-3.7	-2.6	-2.1	-2.8	1.5	1.5	0.9	1.5	-1.2	-8.8	-9.3	-6.2	-6.2	-7.6	-6.2
10-01-2008	SPEC.	-7.0	-8.8	-1.9	-5.1	-4.0	-7.5	-6.5	-6.8	-6.8	-7.3	-4.0	-4.0	-5.0	-4.0	-6.6	-5.9	-5.2	-5.6	-5.6	-6.3	-5.6
	CLASS	2.6	0.6	8.3	4.8	5.9	2.1	3.2	2.8	2.9	2.3	5.9	5.9	4.9	5.9	3.1	-5.9	-5.2	-5.6	-5.6	-6.3	-5.6
09-01-2009	SPEC.	9.9	8.8	17.5	21.5	15.2	16.3	12.9	10.6	12.2	9.9	15.2	15.2	13.4	15.2	14.2	13.9	14.7	14.2	14.2	13.4	14.2
	CLASS	-4.6	-5.5	2.0	5.5	0.0	1.0	-2.0	-4.0	-2.6	-4.6	0.0	0.0	-1.5	0.0	-0.8	13.9	14.7	14.2	14.2	13.4	14.2
10-01-2012	SPEC.	3.5	2.8	9.8	29.4	4.9	13.0	1.7	1.4	10.7	2.4	4.9	4.9	10.1	4.9	10.5	10.1	11.3	8.3	8.3	10.1	8.3
	CLASS	0.4	-0.2	6.6	25.6	1.8	9.7	-1.3	-1.6	7.4	-0.7	1.8	1.8	6.9	1.8	7.2	6.9	11.3	5.1	8.3	10.1	5.1
10-01-2013	SPEC.	7.6	4.6	13.3	22.1	6.4	14.3	0.5	-0.1	9.0	3.0	8.5	6.4	8.4	6.4	9.7	9.0	8.8	8.3	8.3	9.2	8.3
	CLASS	8.8	5.8	14.5	23.5	7.6	15.5	1.6	1.0	10.3	4.1	9.7	7.6	9.6	7.6	10.9	10.3	8.8	9.5	8.3	9.2	9.5
10-01-2014	SPEC.	-14.7	-15.0	-13.3	-17.0	-14.7	-12.7	-15.6	-13.8	-14.1	-16.1	-15.0	-14.7	-14.3	-14.7	-14.4	-15.1	-15.4	-15.4	-15.4	-15.1	-15.4
	CLASS	4.3	4.0	6.0	1.5	4.3	6.7	3.2	5.5	5.0	2.5	4.0	4.3	4.8	4.3	4.6	3.8	-15.4	3.5	-15.4	-15.1	3.5
01-01-2017	SPEC.	1.0	1.4	-1.4	-3.8	-1.3	-1.4	-2.0	-1.8	-1.4	-2.1	-0.9	-1.3	-0.7	-1.3	-0.7	0.2	0.4	2.1	2.1	0.3	2.1
	CLASS	10.9	11.3	8.3	5.6	8.4	8.3	7.7	7.9	8.3	7.6	8.9	8.4	9.1	8.4	9.1	10.0	0.4	12.1	2.1	0.3	12.1
11-01-2018	SPEC.	-2.7	-3.1	-7.0	-13.1	-6.4	-12.0	-7.9	-8.8	-9.0	-6.8	-5.9	-6.6	-4.6	-6.6	-7.0	-5.3	-6.1	-2.4	-2.4	-6.0	-2.4
	CLASS	-2.7	-3.1	-7.0	-13.1	-6.4	-12.0	-7.9	-8.8	-9.0	-6.8	-5.9	-6.6	-4.6	-6.6	-7.0	-5.3	-6.1	-2.4	-2.4	-6.0	-2.4

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.

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TABLE 16A

BASIC GROUP II

HISTORY OF LOSS COST/RATE LEVEL CHANGES
BY TERRITORY, SYMBOL AND COVERAGE

(1) TERRITORY	(2) EFFECTIVE DATE	(3) SYMBOL	(4) BUILDING	(5) CONTENTS
Entire State	03/01/2000	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	0.0%	0.0%
		B	0.0%	0.0%
	02/01/2001	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	0.0%	0.0%
		B	5.0%	5.0%
	02/01/2002	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	0.0%	0.0%
		B	4.8%	4.8%
	01/01/2004	A	20.0%	20.0%
		AA	0.0%	0.0%
		AB	28.6%	28.6%
		B	0.0%	0.0%
	10/01/2007	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	44.4%	44.4%
		B	4.5%	4.5%
	10/01/2008	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	0.0%	0.0%
		B	4.3%	4.3%
	09/01/2009	A	0.0%	0.0%
		AA	0.0%	0.0%
		AB	7.7%	7.7%
		B	4.2%	4.2%
	10/01/2012	A	17.6%	17.4%
		AA	20.0%	14.3%
		AB	8.7%	6.9%
		B	6.7%	5.7%
	10/01/2013	A	5.0%	3.7%
		AA	5.6%	4.2%
		AB	4.0%	6.5%
		B	6.3%	5.4%
	10/01/2014	A	4.8%	3.6%
		AA	5.3%	4.0%
		AB	3.8%	3.0%
		B	5.9%	5.1%
01/01/2017	A	4.5%	6.9%	
	AA	5.0%	7.7%	
	AB	7.4%	5.9%	
	B	5.6%	4.9%	

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TABLE 16A

BASIC GROUP II

HISTORY OF LOSS COST/RATE LEVEL CHANGES
BY TERRITORY, SYMBOL AND COVERAGE

(1) TERRITORY	(2) EFFECTIVE DATE	(3) SYMBOL	(4) BUILDING	(5) CONTENTS
Entire State (cont.)	11/01/2018	A	0.0%	-3.2%
		AA	0.0%	-3.6%
		AB	-3.4%	-2.8%
		B	-2.6%	-2.3%
		OA	0.0%	-3.2%
		OAB	-3.4%	-2.8%
		OB	-2.6%	-2.3%

EXPLANATORY NOTES TO TABLE 16A

HISTORY OF BASIC GROUP II LOSS COST CHANGES BY TERRITORY

COLUMN (1)	<u>TERRITORY</u> The loss cost level changes shown apply to the rating territory shown here.
COLUMN (2)	<u>EFFECTIVE DATE</u> The effective dates of the latest loss cost level changes are shown.
COLUMN (3)	<u>SYMBOL</u> The construction group symbol is shown here. Refer to the explanatory notes to Table 35 for the symbol definitions.
COLUMN (4)	<u>BUILDING</u> Building loss cost changes are shown in percent form.
COLUMN (5)	<u>CONTENTS</u> Contents loss cost changes are shown in percent form.

VERMONT
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
03-01-2000	-10.0	-20.6	-13.5	-20.5	-19.6									
02-01-2001	-8.7	-15.4	-7.7	-10.1	-12.9									
02-01-2002	2.5	-5.8	1.5	2.1	-2.3									
01-01-2004	1.0	-10.1	-2.8	-5.7	-11.4									
10-01-2007	-11.3	-16.7	-16.7	-21.7	-17.6									
10-01-2008	0.0	-2.9	-2.2	-7.2	-2.7									
09-01-2009	5.9	3.2	1.9	-0.5	4.1									
10-01-2012	0.9	4.1	4.7	3.7	4.0	4.0	3.9	6.0	5.5	4.1	5.5	6.1	4.6	6.8
10-01-2013	-1.6	0.4	0.5	1.4	0.9	0.6	0.5	1.1	1.0	0.0	-0.1	1.3	-0.8	3.2
10-01-2014	-7.5	-6.6	-6.7	-6.1	-6.5	-6.8	-6.9	-7.4	-6.6	-7.2	-6.8	-6.9	-9.0	-5.9
01-01-2017	1.3	3.1	3.7	6.1	3.8	3.3	2.8	1.5	3.4	3.7	3.2	2.9	3.1	3.4
11-01-2018	-4.0	-3.1	-2.4	-1.8	-2.5	-2.7	-2.1	-3.0	-2.9	-2.3	-2.7	-2.8	-2.6	-2.5

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.

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 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	1.002	0.500	1.500
32	APARTMENT	0.690	0.500	1.500
33	OFFICE	0.903	0.500	1.500
34	MERCANTILE	0.522	0.500	1.500
35	INSTITUTIONAL	0.889	0.500	1.500
36	SERVICES	0.795	0.500	1.500
37	INDUST/PROCESSING	0.901	0.500	1.500
38	CONTRACTORS	0.747	0.500	1.500

VERMONT
 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	0.615	0.500	1.500
32	APARTMENT	0.506	0.500	1.500
33	OFFICE	0.850	0.500	1.500
34	MERCANTILE	0.705	0.500	1.500
35	INSTITUTIONAL	0.636	0.500	1.500
36	SERVICES	0.850	0.500	1.500
37	INDUST/PROCESSING	0.592	0.500	1.500
38	CONTRACTORS	0.680	0.500	1.500

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

CPP IMPLICIT PACKAGE MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

TOP	DESCRIPTION	IPMF	LOW CAP	HIGH CAP

31	MOTEL/HOTEL	1.254	0.500	1.500
32	APARTMENT	1.467	0.500	1.500
33	OFFICE	1.266	0.500	1.500
34	MERCANTILE	1.238	0.500	1.500
35	INSTITUTIONAL	0.743	0.500	1.500
36	SERVICES	0.946	0.500	1.500
37	INDUST/PROCESSING	0.831	0.500	1.500
38	CONTRACTORS	0.982	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. November 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, 2018. Total amount of insurance trend factors are then calculated by projecting these current factors to the average date of writing (i.e. to the amount of insurance level six months beyond the assumed effective date).

TABLE 21

Development of Current Cost Factors and Loss Projection Factors
For Commercial Property Building and Contents Experience
 Period ending December 31, 2018

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

Building Loss Projection Factors - Xactware Commercial Index (XCI) (Base: 2009 = 100.0)
 Contents - Producer Price Index (PPI) - U.S. Dept. of Labor (Finished Goods Less Energy) (Base: 2009 = 100.0)
 Time Element Combined Index - Weighted average of IMSEP and RSALES indices ^(a)

<u>Quarter</u>	<u>XCI</u>	<u>PPI</u>	<u>IMSEP</u>	<u>RSALES</u>	Time Element Combined <u>Index</u>
Q1-2016	110.5	114.4	1.026	0.950	0.973
Q2-2016	110.7	114.3	1.031	0.955	0.978
Q3-2016	111.3	114.3	1.029	0.953	0.976
Q4-2016	111.9	114.6	1.033	0.956	0.979
Q1-2017	112.7	115.5	1.038	0.963	0.986
Q2-2017	114.0	116.5	1.036	0.957	0.981
Q3-2017	115.0	116.3	1.042	0.959	0.984
Q4-2017	115.5	117.1	1.044	0.965	0.989
Q1-2018	116.6	117.6	1.048	0.971	0.994
Q2-2018	117.5	118.1	1.055	0.974	0.998
Q3-2018	118.4	118.2	1.058	0.974	0.999
Q4-2018	118.8	119.5	1.058	0.977	1.001

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

$$\text{Annual Rate of Change} = 0.0294 = 2.9\% \qquad R^2 = 0.990$$

$$\text{Loss Projection Factor for Buildings} = 1.0294^{22.5/12 (b)} = 1.0558$$

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

$$\text{Annual Rate of Change} = 0.0166 = 1.7\% \qquad R^2 = 0.956$$

$$\text{Loss Projection Factor for Contents} = 1.0166^{22.5/12 (b)} = 1.0314$$

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

$$\text{Annual Rate of Change} = 0.0105 = 1.05\% \qquad R^2 = 0.935$$

$$\text{Loss Projection Factor for Time Element} = 1.0105^{22.5/12 (b)} = 1.0198$$

- (a) 30% weight for IMSEP and 70% weight for RSALES. IMSEP & RSALES indices were rescaled to a 2012 year base.
- (b) Assuming a rate or loss cost revision date of October 1 2019, and all one year policies, the time interval between the midpoint of the latest period (11/15/2018) and the average date of accident (10/01/2020) would be 22.5 months.

TABLE 21

Development of Current Cost Factors and Loss Projection Factors

Part E: Calculation of Current Cost Factors (CCF)

<u>Year</u>	<u>Calendar Year Averages</u>			<u>Current Cost Factors Based on Average Index Values for Period ending December 31, 2018</u>		
	<u>XCI</u>	<u>PPI</u>	<u>Time Element Index</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>
2008	97.0	98.5	0.948	118.8 / 97.0 = 1.225	119.5 / 98.5 = 1.213	1.001 / 0.948 = 1.056
2009	100.0	100.0	0.940	118.8 / 100.0 = 1.188	119.5 / 100.0 = 1.195	1.001 / 0.940 = 1.065
2010	99.3	101.8	0.953	118.8 / 99.3 = 1.197	119.5 / 101.8 = 1.174	1.001 / 0.953 = 1.050
2011	100.0	105.2	0.985	118.8 / 100.0 = 1.188	119.5 / 105.2 = 1.136	1.001 / 0.985 = 1.016
2012	101.0	108.0	1.000	118.8 / 101.0 = 1.176	119.5 / 108.0 = 1.107	1.001 / 1.000 = 1.001
2013	102.7	109.7	1.003	118.8 / 102.7 = 1.157	119.5 / 109.7 = 1.089	1.001 / 1.003 = 0.998
2014	104.7	112.5	1.006	118.8 / 104.7 = 1.135	119.5 / 112.5 = 1.062	1.001 / 1.006 = 0.995
2015	109.1	113.8	0.987	118.8 / 109.1 = 1.089	119.5 / 113.8 = 1.05	1.001 / 0.987 = 1.014
2016	111.1	114.4	0.977	118.8 / 111.1 = 1.069	119.5 / 114.4 = 1.044	1.001 / 0.977 = 1.025
2017	114.3	116.4	0.985	118.8 / 114.3 = 1.039	119.5 / 116.4 = 1.027	1.001 / 0.985 = 1.016
2018	117.8	118.3	0.998	118.8 / 117.8 = 1.008	119.5 / 118.3 = 1.01	1.001 / 0.998 = 1.003

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> $\text{MSEP} = (\text{CD} + \text{CN} + \text{FS}) + (\text{EXD\&N} - \text{IMD\&N}) + (\text{IFIX} - \text{IPP}), \text{ where}$ <p>CD and CN represent consumption of durables and nondurables, respectively; EXD&N and IMD&N represent exports and imports of merchandise, respectively; FS represents food services and IFIX represents gross private domestic fixed investment (including residential fixed investment as well as nonresidential fixed investment in structures, equipment, and intellectual property products); and IPP represents nonresidential fixed investment in intellectual property products.</p>
CHAIN-TYPE PRICE INDEX FOR RETAIL SALES (RSALES)	The Chain-Type Price Index for Retail Sales measures changes in losses due solely to inflation.

EXPLANATORY NOTES TO TABLE 21 (cont'd)

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

LOSS PROJECTION
FACTOR

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

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

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

CALENDAR YEAR
AVERAGES

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

CURRENT COST
FACTORS

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

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

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

TABLE 22

SUMMARY OF LOSS TREND ADJUSTMENTS (LTA'S)

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

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

EXPLANATORY NOTES TO TABLE 22

SUMMARY OF LOSS TREND ADJUSTMENTS (LTA'S)

COLUMN (1)

COVERAGE

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

COLUMN (2)

FIVE-YEAR INCURRED LOSSES

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

COLUMN (3)

ANNUAL LTA's

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

OVERVIEW

DEVELOPMENT OF LOSS TREND ADJUSTMENTS

INTRODUCTION

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

TABLE 23
DEVELOPMENT OF LTA'S

I. EXTERNAL RATE OF CHANGE^a

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

(6) AVERAGE CURRENT COST FACTORS

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

(7) LOSS PROJECTION FACTORS

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

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

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

(9) EXTERNAL ANNUAL RATE OF CHANGE^c

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

- (a) The Current Cost Factors and Loss Projection Factors on this exhibit are based on external economic indices through December 31, 2017 for Buildings, Contents and Time Element.
- (b) Assuming a loss cost revision date of July 1, 2019, the time interval between the midpoint of the latest period of external trend information (November 15, 2018) and the prospective average date of loss (July 1, 2020) is 31.5 months for Buildings, Contents and Time Element.
- (c) The time interval from the weighted midpoint of the experience period to the prospective average date of loss (July 1, 2020) is 54 months for BG I and SCL, and 90 months for BG II. The weighted midpoint is January 1, 2016 for BG I and SCL, and January 1, 2013 for BG II.

TABLE 23
DEVELOPMENT OF LTA'S

II. INTERNAL ANNUAL RATES OF CHANGE:

(10) SELECTED COMFAL

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

III. LTA CALCULATION:

CALCULATION OF LTAs - BUILDINGS

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

CALCULATION OF LTAs - CONTENTS

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

CALCULATION OF LTAs - TIME ELEMENT

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

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

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

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

EXPLANATORY NOTES TO TABLE 23

DEVELOPMENT OF LOSS TREND ADJUSTMENTS (LTA'S)

I. EXTERNAL RATE OF CHANGE

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

CURRENT COST FACTORS

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

COLUMNS (4)
AND (5)

WEIGHTS

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

LINES (6)

AVERAGE CURRENT COST FACTORS

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

LINE (7)

LOSS PROJECTION FACTORS

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

LINE (8)

TOTAL TREND

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

LINE (9)

EXTERNAL ANNUAL RATE OF CHANGE

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

II. INTERNAL ANNUAL RATES OF CHANGES

LINE (10)

SELECTED COMFAL

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

EXPLANATORY NOTES TO TABLE 23 (cont'd)

III. LTA CALCULATION

COLUMN (11)

ANNUAL EXTERNAL

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

COLUMN (12)

ANNUAL INTERNAL

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

COLUMN (13)

INDICATED SEVERITY LTA

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

COLUMN (14)

FORMULA SEVERITY LTA

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

COLUMN (15)

FREQUENCY EFFECT

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

COLUMN (16)

FINAL LTA

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

TABLE 24A

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

<u>Year</u>	<u>Buildings</u>				<u>Contents</u>			
	<u>(1)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(2)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(3)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(4)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>	<u>(5)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(6)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(7)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(8)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>
2006	3.8%	1.380	1.443	1.484	2.1%	1.268	1.310	1.331
2007	3.9%	1.328	1.389	1.430	2.4%	1.238	1.279	1.302
2008	3.5%	1.283	1.342	1.377	2.4%	1.209	1.249	1.272
2009	3.3%	1.242	1.299	1.331	2.2%	1.183	1.223	1.243
2010	2.5%	1.212	1.268	1.292	1.7%	1.163	1.202	1.218
2011	2.5%	1.182	1.236	1.260	1.8%	1.142	1.180	1.196
2012	2.7%	1.151	1.204	1.228	1.8%	1.122	1.160	1.175
2013	2.6%	1.122	1.174	1.197	2.1%	1.099	1.136	1.154
2014	2.5%	1.095	1.145	1.167	2.1%	1.076	1.112	1.130
2015	2.3%	1.070	1.119	1.139	1.9%	1.056	1.091	1.107
2016	2.1%	1.048	1.096	1.113	1.8%	1.037	1.072	1.086
2017	2.1%	1.026	1.073	1.090	1.8%	1.019	1.053	1.067
2018	2.6%	1.000	1.046	1.066	1.9%	1.000	1.033	1.048

Notes

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

b The selected average annual changes in Amount of Insurance for projection purposes are 2.6% and 1.9% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 04/01/2020 (i.e., 6 months beyond an assumed revision date of 10/01/2019), by applying a factor of $(1.026)^{18/12}$ for Buildings and $(1.019)^{18/12}$ 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	1/32
n-1	11/16
n	9/32

For example, the factors used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.066 for Buildings and 1.048 for Contents.

TABLE 24A (cont'd)

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

	Time Element			
	(1) ^a Annual Written <u>Year</u> <u>Increase</u>	(2) ^a 07-01-2018 Written <u>Factors</u>	(3) ^b 04-01-2020 Projected <u>Factors</u>	(4) ^c 04-01-2020 Earned <u>Factors</u>
2006	1.4%	1.118	1.130	1.142
2007	1.3%	1.104	1.116	1.127
2008	1.3%	1.090	1.101	1.112
2009	0.8%	1.081	1.092	1.099
2010	0.7%	1.073	1.084	1.090
2011	0.8%	1.064	1.075	1.082
2012	0.8%	1.056	1.067	1.073
2013	0.9%	1.047	1.058	1.065
2014	1.0%	1.037	1.048	1.055
2015	1.1%	1.026	1.037	1.045
2016	1.1%	1.015	1.026	1.034
2017	0.9%	1.006	1.017	1.024
2018	0.6%	1.000	1.011	1.016

Notes

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

b The selected average annual change in Net Income (Time Element exposure) for projection purposes is 0.6%. Consequently, the written factors at 07/01/2018 levels in column (2) are brought to the level of the average date of writing in the effective period, 04/01/2020 (i.e., 6 months beyond an assumed revision date of 10/01/2019), by applying a factor of $(1.006)^{18/12}$ 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>Year</u>	<u>Earning Factors</u>
	<u>All Years</u>
n-2	1/32
n-1	11/16
n	9/32

For example, the factor used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level is 1.016.

TABLE 24B

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

<u>Year</u>	<u>Buildings</u>				<u>Contents</u>			
	<u>(1)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(2)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(3)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(4)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>	<u>(5)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(6)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(7)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(8)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>
2006	3.1%	1.297	1.345	1.376	1.8%	1.219	1.253	1.270
2007	3.1%	1.258	1.305	1.335	2.0%	1.195	1.229	1.247
2008	2.8%	1.224	1.269	1.296	2.0%	1.172	1.205	1.223
2009	2.7%	1.192	1.236	1.261	1.8%	1.151	1.183	1.200
2010	2.0%	1.169	1.212	1.230	1.4%	1.135	1.167	1.179
2011	2.0%	1.146	1.188	1.206	1.5%	1.118	1.149	1.162
2012	2.2%	1.121	1.163	1.182	1.5%	1.101	1.132	1.145
2013	2.1%	1.098	1.139	1.157	1.8%	1.082	1.112	1.127
2014	2.0%	1.076	1.116	1.133	1.8%	1.063	1.093	1.107
2015	1.9%	1.056	1.095	1.111	1.6%	1.046	1.075	1.089
2016	1.7%	1.038	1.076	1.090	1.5%	1.031	1.060	1.071
2017	1.7%	1.021	1.059	1.072	1.5%	1.016	1.045	1.056
2018	2.1%	1.000	1.037	1.053	1.6%	1.000	1.028	1.041

Notes

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

b The average annual changes in Premium for projection purposes are 2.1% and 1.6% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 04/01/2020 (i.e., 6 months beyond an assumed revision date of 10/01/2019), by applying a factor of $(1.021)^{18/12}$ for Buildings and $(1.016)^{18/12}$ 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	1/32
n-1	11/16
n	9/32

For example, the factors used to adjust earned exposures for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.053 for Buildings and 1.041 for Contents.

TABLE 24C

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

Year	Buildings				Contents			
	(1) ^a Annual Written Increase	(2) ^a 07-01-2018 Written Factors	(3) ^b 04-01-2020 Projected Factors	(4) ^c 04-01-2020 Earned Factors	(5) ^a Annual Written Increase	(6) ^a 07-01-2018 Written Factors	(7) ^b 04-01-2020 Projected Factors	(8) ^c 04-01-2020 Earned Factors
2006	2.8%	1.272	1.315	1.343	1.6%	1.197	1.226	1.241
2007	2.9%	1.236	1.277	1.305	1.8%	1.176	1.205	1.221
2008	2.6%	1.205	1.245	1.269	1.8%	1.155	1.183	1.199
2009	2.4%	1.177	1.216	1.238	1.7%	1.136	1.164	1.178
2010	1.9%	1.155	1.194	1.211	1.3%	1.121	1.149	1.160
2011	1.9%	1.133	1.171	1.188	1.4%	1.106	1.133	1.145
2012	2.0%	1.111	1.148	1.165	1.4%	1.091	1.118	1.129
2013	1.9%	1.090	1.127	1.143	1.6%	1.074	1.100	1.113
2014	1.9%	1.070	1.106	1.122	1.6%	1.057	1.083	1.096
2015	1.7%	1.052	1.087	1.101	1.4%	1.042	1.068	1.079
2016	1.6%	1.035	1.070	1.083	1.4%	1.028	1.053	1.064
2017	1.6%	1.019	1.053	1.066	1.4%	1.014	1.039	1.050
2018	1.9%	1.000	1.033	1.048	1.4%	1.000	1.025	1.036

Notes

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

b The average annual changes in Premium for projection purposes are 1.9% and 1.4% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 04/01/2020 (i.e., 6 months beyond an assumed revision date of 10/01/2019), by applying a factor of (1.019)^{18/12} for Buildings and (1.014)^{18/12} for Contents.

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

Year	<u>Earning Factors</u>
	<u>All Years</u>
n-2	1/32
n-1	11/16
n	9/32

For example, the factors used to adjust earned premium for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.048 for Buildings and 1.036 for Contents.

TABLE 24D

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

<u>Year</u>	<u>Buildings</u>				<u>Contents</u>			
	<u>(1)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(2)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(3)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(4)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>	<u>(5)^a</u> <u>Annual</u> <u>Written</u> <u>Increase</u>	<u>(6)^a</u> <u>07-01-2018</u> <u>Written</u> <u>Factors</u>	<u>(7)^b</u> <u>04-01-2020</u> <u>Projected</u> <u>Factors</u>	<u>(8)^c</u> <u>04-01-2020</u> <u>Earned</u> <u>Factors</u>
2006	2.9%	1.281	1.326	1.354	1.4%	1.168	1.193	1.205
2007	3.0%	1.244	1.288	1.317	1.6%	1.150	1.174	1.188
2008	2.7%	1.211	1.254	1.280	1.6%	1.132	1.156	1.170
2009	2.5%	1.181	1.223	1.246	1.4%	1.116	1.140	1.152
2010	1.9%	1.159	1.200	1.218	1.1%	1.104	1.127	1.137
2011	1.9%	1.137	1.177	1.194	1.2%	1.091	1.114	1.124
2012	2.1%	1.114	1.153	1.171	1.2%	1.078	1.101	1.111
2013	2.0%	1.092	1.131	1.148	1.4%	1.063	1.085	1.097
2014	1.9%	1.072	1.110	1.126	1.4%	1.048	1.070	1.081
2015	1.8%	1.053	1.090	1.105	1.2%	1.036	1.058	1.067
2016	1.6%	1.036	1.073	1.086	1.2%	1.024	1.046	1.055
2017	1.6%	1.020	1.056	1.069	1.2%	1.012	1.033	1.043
2018	2.0%	1.000	1.035	1.051	1.2%	1.000	1.021	1.030

Notes

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

b The average annual changes in Premium for projection purposes are 2.0% and 1.2% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2018 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 01/01/2020 (i.e., 6 months beyond an assumed revision date of 07/01/2019), by applying a factor of (1.020)^{18/12} for Buildings and (1.012)^{18/12} 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	1/32
n-1	11/16
n	9/32

For example, the factors used to adjust earned premium for the period from 01/01/2018 to 12/31/2018 to the projected level are 1.051 for Buildings and 1.030 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)
AND (5)

ANNUAL WRITTEN INCREASE

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)
AND (6)

07-01-2018 WRITTEN FACTORS

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

COLUMNS (3)
AND (7)

04-01-2020 PROJECTED FACTORS

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

COLUMNS (4)
AND (8)

04-01-2020 EARNED EXPOSURES/PREMIUM FACTORS

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

VERMONT
TABLE 25

BASIC GROUP I

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		TIME ELEMENT
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		
				BUILDINGS	CONTENTS	
2014	2,534,318	3,248,257	1.282	81.9%	15.7%	2.4%
2015	7,775,808	9,623,650	1.238	64.4%	28.3%	7.3%
2016	2,627,095	3,104,092	1.182	65.6%	5.9%	28.5%
2017	490,172	564,601	1.152	92.8%	7.2%	0.0%
2018	1,514,932	1,692,041	1.117	90.2%	9.8%	0.0%

VERMONT
TABLE 26

BASIC GROUP II

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		
	UNADJUSTED** NON-HURRICANE INCURRED LOSSES	TRENDED** NON-HURRICANE INCURRED LOSSES	AVG. TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		TIME ELEMENT
				BUILDINGS	CONTENTS	
2009	589,697	782,913	1.328	90.5%	9.1%	0.4%
2010	571,787	737,321	1.290	75.2%	24.8%	0.0%
2011	931,398	1,204,699	1.293	89.0%	7.3%	3.7%
2012	453,785	578,819	1.276	81.5%	18.4%	0.1%
2013	599,139	747,461	1.248	83.6%	16.4%	0.0%
2014	284,061	344,758	1.214	83.6%	16.4%	0.0%
2015	2,971,343	3,608,460	1.214	91.5%	2.5%	6.0%
2016	174,602	204,578	1.172	63.6%	20.2%	16.2%
2017	311,474	351,828	1.130	77.9%	22.1%	0.0%
2018	967,902	1,069,088	1.105	92.5%	5.9%	1.6%

** LOSSES INCURRED DURING THE MONTH OF A HURRICANE HAVE BEEN EXCLUDED AND REPLACED WITH AVERAGE NON-HURRICANE LOSSES.

VERMONT
TABLE 27

SPECIAL CAUSES OF LOSS

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		TIME ELEMENT
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		
				BUILDINGS	CONTENTS	
2014	1,966,452	2,417,466	1.229	75.3%	23.6%	1.1%
2015	3,362,803	3,991,261	1.187	89.5%	8.3%	2.2%
2016	679,727	795,570	1.170	72.2%	21.8%	6.0%
2017	1,442,467	1,626,834	1.128	73.4%	26.6%	0.0%
2018	1,342,794	1,468,540	1.094	84.9%	14.9%	0.2%

EXPLANATORY NOTES TO TABLES 25, 26 AND 27

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

COLUMN (1) UNADJUSTED INCURRED LOSSES

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

COLUMN (2) TRENDED INCURRED LOSSES

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

COLUMN (3) AVERAGE TREND FACTOR

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

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

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

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

LOSS DEVELOPMENT

INTRODUCTION

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

LOSS DEVELOPMENT PROCEDURES

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

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

Accident year ended March 31, 2018 includes all losses paid on accidents from April 1, 2017 to March 31, 2017 and all losses outstanding on those accidents as of June 30, 2018, fifteen months after the inception of the accident year. Similarly, accident years ended March 31, 2017, 2016, 2015 and 2014 include all losses paid and outstanding as of 27, 39, 51 and 63 months, respectively, after the inception of the accident year.

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

TABLE 28
 BASIC GROUP I
 INCURRED LOSSES
 LOSS YEARS 2009-2018
 EVALUATED AS OF 6/2018

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
3/31/2009	1,010,225,344	981,124,795	971,554,550	979,004,019	974,997,018
3/31/2010	1,013,149,000	1,001,797,626	992,803,528	985,111,714	981,419,745
3/31/2011	977,338,560	963,686,293	946,573,904	936,166,526	933,988,492
3/31/2012	911,872,089	884,689,375	867,014,048	860,163,345	854,710,667
3/31/2013	972,908,245	942,260,058	924,882,683	918,689,717	904,497,515
3/31/2014	943,492,590	946,676,916	935,880,739	927,611,663	923,912,160
3/31/2015	878,966,753	861,237,700	855,479,959	845,410,025	
3/31/2016	840,511,253	817,679,989	810,258,497		
3/31/2017	943,292,500	911,567,235			
3/31/2018	1,389,876,104				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
3/31/2009	0.971	0.990	1.008	0.996
3/31/2010	0.989	0.991	0.992	0.996
3/31/2011	0.986	0.982	0.989	0.998
3/31/2012	0.970	0.980	0.992	0.994
3/31/2013	0.968	0.982	0.993	0.985
3/31/2014	1.003	0.989	0.991	0.996
3/31/2015	0.980	0.993	0.988	
3/31/2016	0.973	0.991		
3/31/2017	0.966			
5 POINT AVERAGE	0.978	0.987	0.991	0.994

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $0.978 \times 0.987 \times 0.991 \times 0.994 = 0.951$
 27 MONTHS TO ULTIMATE = $0.987 \times 0.991 \times 0.994 = 0.972$
 39 MONTHS TO ULTIMATE = $0.991 \times 0.994 = 0.985$
 51 MONTHS TO ULTIMATE = $0.994 = 0.994$

TABLE 28
 BASIC GROUP II
 INCURRED LOSSES
 LOSS YEARS 2009-2018
 EVALUATED AS OF 6/2018

LOSSES
 AS OF

YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
3/31/2009	724,550,944	760,778,906	766,227,055	767,172,311	768,232,716
3/31/2010	514,444,233	523,537,373	523,118,703	525,445,682	528,539,835
3/31/2011	671,009,527	702,138,332	709,290,184	713,721,667	718,118,814
3/31/2012	1,352,006,075	1,369,111,241	1,382,493,799	1,396,305,898	1,406,874,392
3/31/2013	946,729,632	979,261,588	991,521,665	1,001,702,136	1,008,582,561
3/31/2014	606,976,113	615,050,046	618,601,207	624,331,565	629,988,346
3/31/2015	555,581,362	575,187,756	592,705,970	597,612,318	
3/31/2016	541,299,432	567,393,672	591,774,507		
3/31/2017	809,702,100	849,858,689			
3/31/2018	692,841,182				

RATIOS

YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
3/31/2009	1.050	1.007	1.001	1.001
3/31/2010	1.018	0.999	1.004	1.006
3/31/2011	1.046	1.010	1.006	1.006
3/31/2012	1.013	1.010	1.010	1.008
3/31/2013	1.034	1.013	1.010	1.007
3/31/2014	1.013	1.006	1.009	1.009
3/31/2015	1.035	1.030	1.008	
3/31/2016	1.048	1.043		
3/31/2017	1.050			
5 POINT AVERAGE	1.036	1.020	1.009	1.007

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = 1.036 X 1.020 X 1.009 X 1.007 = 1.074

27 MONTHS TO ULTIMATE = 1.020 X 1.009 X 1.007 = 1.036

39 MONTHS TO ULTIMATE = 1.009 X 1.007 = 1.016

51 MONTHS TO ULTIMATE = 1.007 = 1.007

TABLE 28
SPECIAL CAUSES OF LOSS
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 6/2018

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
3/31/2009	694,843,355	684,921,958	686,971,759	682,513,977	679,983,921
3/31/2010	662,342,917	653,447,795	648,647,149	649,326,628	648,769,206
3/31/2011	717,031,206	699,764,258	704,564,350	701,835,965	699,988,301
3/31/2012	514,013,967	514,164,777	511,224,814	512,209,033	511,882,749
3/31/2013	438,777,933	433,868,660	424,435,369	426,275,617	426,414,581
3/31/2014	723,106,733	713,629,938	708,629,281	708,790,768	706,874,405
3/31/2015	590,113,994	607,927,033	605,015,789	604,225,609	
3/31/2016	431,477,358	432,757,519	427,396,937		
3/31/2017	402,779,003	425,031,286			
3/31/2018	867,967,710				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
3/31/2009	0.986	1.003	0.994	0.996
3/31/2010	0.987	0.993	1.001	0.999
3/31/2011	0.976	1.007	0.996	0.997
3/31/2012	1.000	0.994	1.002	0.999
3/31/2013	0.989	0.978	1.004	1.000
3/31/2014	0.987	0.993	1.000	0.997
3/31/2015	1.030	0.995	0.999	
3/31/2016	1.003	0.988		
3/31/2017	1.055			
5 POINT AVERAGE	1.013	0.990	1.000	0.998

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = 1.013 X 0.990 X 1.000 X 0.998 = 1.001
 27 MONTHS TO ULTIMATE = 0.990 X 1.000 X 0.998 = 0.988
 39 MONTHS TO ULTIMATE = 1.000 X 0.998 = 0.998
 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 BG I 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 and years in the experience period by construction, protection, and amount of insurance intervals. 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 that the original ten-year multistate incurred loss level is maintained.

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.

EXCESS LOSS PROCEDURES (cont'd)

BASIC GROUP II

Since wind caused by non-hurricane events can cause large and unexpected losses, a long-term excess procedure is used for Basic Group II. The purpose of this procedure is to avoid the shifts in loss costs which would result from reflecting large, unexpected losses only in the year in which they occur.

The Basic Group II excess procedure identifies periods of overall adverse experience, rather than individual large losses, since catastrophic non-hurricane wind losses affect both the frequency and the severity of losses. Also, due to the extreme volatility of these losses, a long-term review period (1950 - present) is used. Losses reflected in the hurricane model are not included in this procedure. For those years reported under the Commercial Statistical Plan (CSP), 1982 and later, hurricane losses have been replaced with average non-hurricane losses. For years prior to CSP reporting, any year in which a hurricane occurred has been excluded.

A loss ratio cutoff is used to determine normal and excess losses in the excess procedure. The application of this cutoff is described in the explanatory notes to Table 31. The excess losses are used to determine the excess multiplier. The excess multiplier is derived in such a manner as to provide an estimate of the expected excess non-hurricane loss dollars per normal non-hurricane loss dollar.

The excess multiplier is applied to the normal non-hurricane losses for 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 non-hurricane loss experience and the average excess non-hurricane 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 non-hurricane 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. The calculations underlying the smoothing procedure are described in the Explanatory Notes to Table 32.

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

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

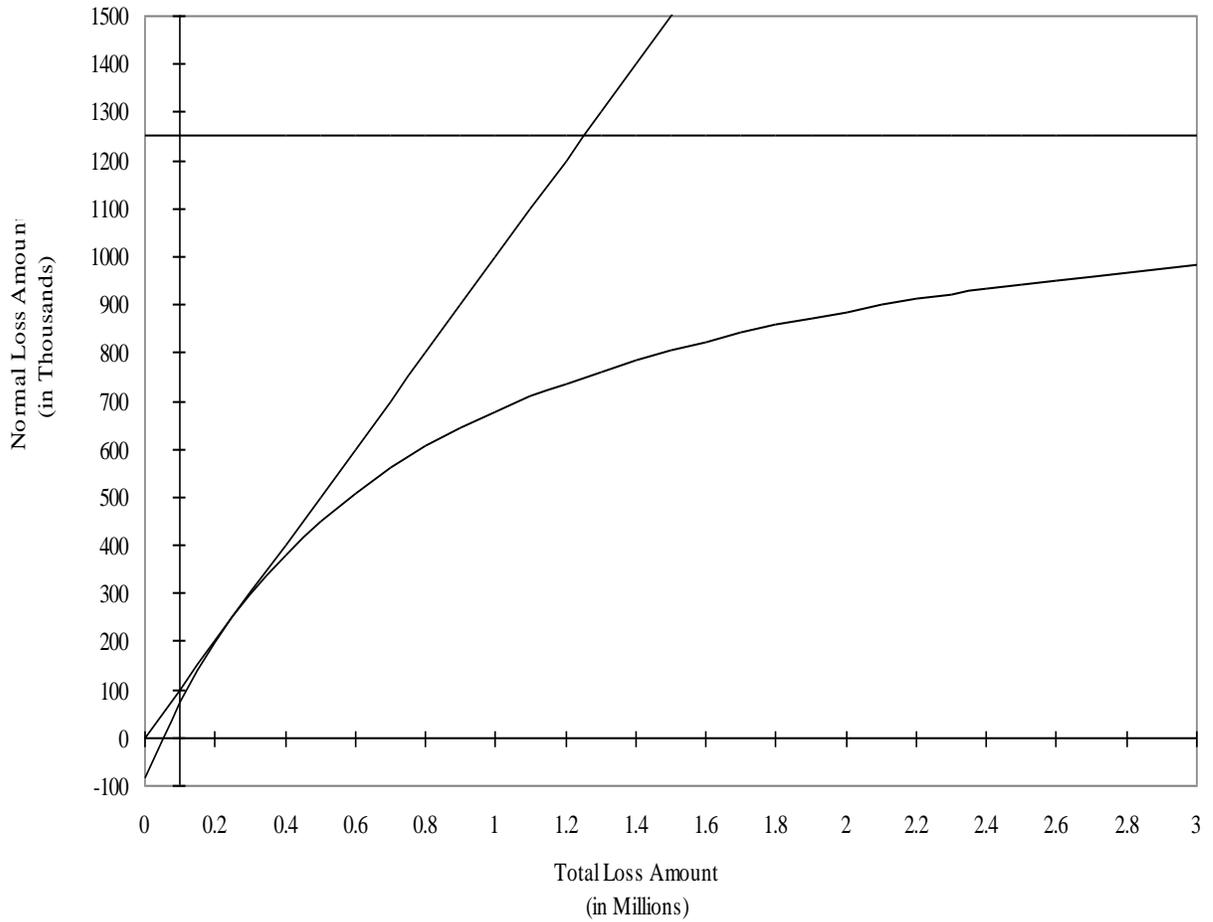
		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 4-6	Prot. 1-4	1.000	1.042	1.086	1.132	1.180	1.229	1.281	1.335	1.392	1.450	2.005
	Prot. 5-7	1.000	1.053	1.109	1.167	1.229	1.294	1.363	1.435	1.511	1.591	2.386
	Prot. 8-10	1.000	1.061	1.126	1.195	1.267	1.345	1.427	1.514	1.606	1.704	2.712

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

Table 29 (cont'd)

Countrywide Basic Group I
Normal vs. Total Loss Amount

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



EXPLANATORY NOTES TO TABLES 29

COUNTRYWIDE BASIC GROUP I EXCESS LOSS FACTORS

EXCESS LOSS
FACTORS

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

VERMONT
TABLE 30

BASIC GROUP I
ADDITIONAL EXCESS LOSS INFORMATION

YEAR	(1) TRENDED INCURRED LOSSES	(2) TRENDED NORMAL LOSSES	(3) STATE NORMAL % (2) / (1)	(4) MULTI- STATE NORMAL %	(5) ADJUSTED INCURRED LOSSES	(6) STATE AVERAGE EXCESS FACTOR (5) / (2)
2014	3,248,257	3,236,093	99.6%	73.4%	3,945,821	1.219
2015	9,623,650	6,519,924	67.7%	75.6%	9,194,466	1.410
2016	3,104,092	2,764,873	89.1%	71.8%	3,491,422	1.263
2017	564,601	564,601	100.0%	71.2%	642,944	1.139
2018	1,692,041	1,685,355	99.6%	57.2%	1,923,441	1.141

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.

VERMONT
TABLE 31

DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER*

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	NON-HURRICANE INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	EXCESS LOSS RATIO
1950	57,599	63,124	28,800	0.500	0.596
1951	66,053	322,026	33,027	0.500	4.375
1952	79,043	48,904	39,522	0.500	0.119
1953	91,985	22,528	22,528	0.245	
1954	106,043	51,751	51,751	0.488	
1955	110,548	34,062	34,062	0.308	
1956	111,940	27,873	27,873	0.249	
1957	117,309	35,521	35,521	0.303	
1958	123,571	13,035	13,035	0.105	
1959	133,599	50,935	50,935	0.381	
1960	147,224	48,677	48,677	0.331	
1961	159,021	87,755	79,511	0.500	0.052
1962	161,064	45,850	45,850	0.285	
1963	155,767	65,911	65,911	0.423	
1964	153,433	3,953	3,953	0.026	
1965	150,908	98,421	75,454	0.500	0.152
1966	157,048	64,606	64,606	0.411	
1967	162,920	85,823	81,460	0.500	0.027
1968	174,250	45,447	45,447	0.261	
1969	210,832	106,761	105,416	0.500	0.006
1970	315,660	101,690	101,690	0.322	
1971	328,933	68,493	68,493	0.208	
1972	398,246	179,833	179,833	0.452	
1973	409,236	157,369	157,369	0.385	
1974	489,565	188,148	188,148	0.384	
1975	684,440	413,251	342,220	0.500	0.104
1976	861,725	296,329	296,329	0.344	
1977	1,056,929	359,151	359,151	0.340	
1978	1,211,575	281,878	281,878	0.233	
1979	1,304,490	396,229	396,229	0.304	
1980	1,198,109	468,505	468,505	0.391	
1981	1,021,809	686,794	510,905	0.500	0.172
1982	985,992	533,687	492,996	0.500	0.041
1983	954,744	382,126	382,126	0.400	
1984	950,232	287,914	287,914	0.303	
1985	1,152,432	226,415	226,415	0.196	
1986	1,757,616	438,463	438,463	0.249	
1987	1,771,572	463,921	463,921	0.262	
1988	1,630,722	515,849	515,849	0.316	
1989	1,498,716	519,874	519,874	0.347	
1990	1,556,643	415,439	415,439	0.267	
1991	1,354,710	224,319	224,319	0.166	
1992	1,212,027	194,832	194,832	0.161	
1993	1,186,608	245,597	245,597	0.207	

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TABLE 31

DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER*

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	NON-HURRICANE INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	EXCESS LOSS RATIO
1994	1,081,281	326,990	326,990	0.302	
1995	952,716	245,608	245,608	0.258	
1996	851,622	177,071	177,071	0.208	
1997	749,958	213,236	213,236	0.284	
1998	698,652	639,487	349,326	0.500	0.415
1999	707,133	661,673	353,567	0.500	0.436
2000	725,538	428,448	362,769	0.500	0.091
2001	701,904	272,867	272,867	0.389	
2002	787,650	331,381	331,381	0.421	
2003	968,211	774,332	484,106	0.500	0.300
2004	1,248,129	206,768	206,768	0.166	
2005	1,238,130	370,006	370,006	0.299	
2006	1,255,500	603,508	603,508	0.481	
2008	1,644,123	1,623,305	822,062	0.500	0.487
2009	1,337,051	589,697	589,697	0.441	
2010	1,344,364	571,787	571,787	0.425	
2011	1,334,256	931,398	667,128	0.500	0.198
2012	1,340,641	453,786	453,786	0.338	
2013	1,524,151	599,139	599,139	0.393	
2014	1,622,320	282,414	282,414	0.174	
2015	1,726,003	2,992,143	863,002	0.500	1.234
2016	1,826,203	177,395	177,395	0.097	
2017	1,874,257	322,688	322,688	0.172	
2018	1,825,532	1,039,527	912,766	0.500	0.069
TOTALS				23.901	8.874

(7) STATE EXCESS COMPONENT = (EXLR / NLR) = 0.371

(8) STATE EXCESS MULTIPLIER = (1 + SEC) = 1.371

* HURRICANE YEARS BEFORE 1982 HAVE BEEN EXCLUDED. FOR THE YEARS 1982 THROUGH 2017, LOSSES INCURRED DURING THE MONTH OF A HURRICANE HAVE BEEN REPLACED WITH AVERAGE MONTHLY NON-HURRICANE LOSSES.

NOTE: FOR YEARS PRIOR TO 2007, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 12/31. FOR YEARS 2009 TO 2018, THE DISPLAYED YEAR INCLUDES DATA FOR ACCIDENT YEAR ENDING 03/31. THE DISPLAYED YEAR 2008 INCLUDES DATA FOR FIRST QUARTER 2007 THROUGH FIRST QUARTER 2008.

EXPLANATORY NOTES TO TABLE 31

BASIC GROUP II EXCESS MULTIPLIER

COLUMN (2) EARNED PREMIUMS

The unadjusted earned premiums are shown for each year.

COLUMN (3) INCURRED NON-HURRICANE LOSSES

The unadjusted non-hurricane incurred losses are shown for each year. Note that any year prior to 1982 (pre-CSP) in which a hurricane occurred has been excluded from the excess review period. The incurred losses have been adjusted to reflect loss development.

COLUMN (4) NORMAL INCURRED NON-HURRICANE LOSSES

The normal incurred losses for each year are those non-hurricane losses which do not exceed 0.500 times the earned premium for that year.

COLUMN (5) NORMAL LOSS RATIO

For each year in the excess review period, the normal loss ratio is the ratio of the normal incurred losses to the earned premium for the same year.

COLUMN (6) STATE EXCESS LOSS RATIO

The state 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 (7) STATE EXCESS COMPONENT

The state excess component is determined by dividing the sum of the state excess loss ratios by the sum of all normal loss ratios (where each sum is taken across all non-hurricane accident years in the excess review period).

LINE (8) STATE EXCESS MULTIPLIER

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

VERMONT

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	1,048,662	877,012	798,739	0.762	0.074
1987	1,315,827	719,123	699,925	0.532	0.015
1988	1,425,846	1,542,672	1,063,141	0.746	0.336
1989	1,454,346	546,591	546,591	0.376	
1990	1,629,195	1,096,849	963,669	0.592	0.081
1991	2,009,913	1,022,770	1,022,770	0.509	
1992	2,387,502	1,719,736	1,587,101	0.665	0.055
1993	2,651,847	1,708,489	1,397,159	0.527	0.117
1994	2,507,262	2,201,044	1,693,392	0.675	0.203
1995	2,472,792	2,133,335	2,133,335	0.863	
1996	2,326,110	2,162,951	1,969,821	0.847	0.083
1997	2,026,575	1,371,227	1,371,227	0.677	
1998	1,969,239	1,362,926	1,167,706	0.593	0.099
1999	1,971,663	1,785,142	1,413,422	0.717	0.188
2000	2,035,044	1,777,713	1,751,585	0.861	0.013
2001	2,296,056	4,262,902	1,658,955	0.723	1.134
2002	2,442,705	1,325,118	1,325,118	0.542	
2003	2,816,595	3,180,114	2,571,218	0.913	0.216
2004	3,470,811	2,482,203	2,157,419	0.622	0.093
2005	3,771,606	970,019	970,019	0.257	
2006	3,145,140	596,904	596,904	0.190	
2007	3,083,133	2,180,703	1,433,502	0.465	0.242
2008	2,910,039	1,676,126	1,676,126	0.576	
2009	3,153,459	1,680,173	1,680,173	0.533	
2010	3,015,162	1,041,418	1,041,418	0.345	
2011	3,036,444	1,977,084	1,674,633	0.552	0.099
2012	3,097,284	3,320,342	1,984,879	0.641	0.431
2013	3,304,197	978,347	978,347	0.296	
2014	3,384,126	1,966,452	1,966,452	0.581	
2015	3,441,239	3,362,803	2,407,938	0.700	0.277
2016	3,533,442	679,727	679,727	0.192	
2017	3,557,480	1,442,467	1,316,505	0.370	0.035
2018	3,426,476	1,342,794	1,342,794	0.392	
TOTALS		56,493,276	47,041,710	18.832	3.791

(6) STATE EXCESS COMPONENT = (SELR / NLR) = 0.201

(7) STATE EXCESS MULTIPLIER = (1 + SEC) = 1.201

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	8.844
(1c)	FULL CREDIBILITY CLAIMS STANDARD ADJUSTED FOR SEVERITY ((1a) X (1b))	13,593
(2)	MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	339.824
(3)	FULL CREDIBILITY EARNED RISKS STANDARD (1c)X(2)	4,619,228
(4)	FIVE YEAR STATEWIDE EARNED RISKS	105,368
(5)	FIVE YEAR AGGREGATE LOSS COSTS	31,242,408
(6)	AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	296.508
(7)	AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,369,638,056
(8)	STATEWIDE CREDIBILITY ((5)/(7))**(.5)	15.1%
(9)	MINIMUM CREDIBILITY	25.0%

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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	139.458
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,183,740
(4) TEN YEAR STATEWIDE EARNED RISKS	205,424
(5) TEN YEAR AGGREGATE LOSS COSTS	12,288,662
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	59.821
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	250,275,511
(8) STATEWIDE CREDIBILITY ((5)/(7))**(.5)	22.2%
(9) MINIMUM CREDIBILITY	25.0%

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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	175.478
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,386,950
(4) FIVE YEAR STATEWIDE EARNED RISKS	100,978
(5) FIVE YEAR AGGREGATE LOSS COSTS	13,457,915
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	133.276
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	584,675,148
(8) STATEWIDE CREDIBILITY ((5)/(7))**(.5)	15.2%
(9) MINIMUM CREDIBILITY	25.0%

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)).

LINE (9) When the indicated credibility is below 25%, a minimum cap of 25% is assigned to the state credibility in order to reasonably reflect the state's experience in the coverage change calculation.

BASIC GROUP II

HURRICANE PROCEDURES

INTRODUCTION

The Basic Group II ratemaking procedures in hurricane-prone states incorporate the use of a computerized hurricane model which can estimate hurricane losses more accurately and with greater geographic specificity than traditional experience-based techniques. The model uses a meteorological database of both landfalling and nonlandfalling tropical cyclones since 1900, a sophisticated wind field model, and engineering and insurance-based damage relationships to develop reliable estimates of expected hurricane losses. The model evaluates the probability of a hurricane at a specific location, the duration of the wind speeds at that location and the relative damageability by type of structure for the current distribution of exposures.

OVERVIEW OF THE USE OF HURRICANE MODELS IN RATEMAKING

The model provides hurricane loss costs (expected hurricane losses per \$100 of replacement cost value) by ZIP code, construction class, and coverage (building vs. contents). These loss costs are weighted together using the latest year Basic Group II premium distribution to calculate expected hurricane loss costs by BG II rating territory, symbol (construction grouping) and coverage (building vs. contents). The hurricane loss costs are then adjusted to an 80% coinsurance, base deductible, and base limit of insurance level, and a factor is applied to reflect all loss adjustment expenses.

The non-hurricane portion of the prospective loss costs is calculated by applying the statewide non-hurricane monoline change, based on the latest ten years of non-hurricane experience, to the non-hurricane portion of the current BG II loss costs.

The revised BG II loss costs are then equal to the sum of the modeled hurricane loss costs and the non-hurricane portion of the prospective loss costs.

BASIC GROUP II

DESCRIPTION OF THE HURRICANE MODEL

HURRICANE DEFINED

A hurricane is a tropical cyclone technically defined as a non-frontal, low pressure synoptic-scale system in which the maximum sustained surface wind speed is at least 74 miles per hour.

HURRICANE MODEL

The model consists of several components or modules - an event generation module, local intensity module, and damage module.

The event generation module is used to create the stochastic storm catalog. Over 100 years of historical data on the frequency of hurricanes and their meteorological characteristics were used to fit statistical distributions for each parameter used. These parameters include storm track, landfall location and track angle at landfall, and the intensity variables of central pressure, radius of maximum winds, and forward speed. By stochastically drawing from these statistical distributions, the fundamental characteristics of each simulated storm are generated. The result is a large, representative catalog of potential events.

Once the model generates the characteristics of a simulated event, it propagates the event along its track. Peak gust wind speeds and wind duration are estimated for each geographical location affected by the storm, and the local intensity is estimated as a function of the magnitude of the event, distance from the source of the event, and a variety of local conditions.

Damageability functions are then used to determine the relationship between the local intensity and the resulting damage to buildings and contents. Expected hurricane losses are calculated by applying the appropriate damage functions to the replacement value of the insured properties.

Following is a discussion of those elements reflected in the AIR tropical cyclone model for the Gulf and Atlantic Coasts of the continental United States.

EVENT
GENERATION
MODULE

The following storm characteristics are modeled as part of the event generation module:

Frequency of Occurrence - The model estimates frequency of occurrence based on tropical cyclones occurring since 1900.

Landfall Location - The model estimates the probability of a hurricane occurring at points along the smoothed coastline from Texas to Maine.

Central Pressure - Central pressure is the primary determinant of hurricane wind speed and therefore of intensity. All else being equal, as central pressure decreases, wind speeds increase or, more precisely, wind speed is an increasing function of the difference between the central and peripheral pressure.

Radius of Maximum Winds (Rmax) - The radius of maximum winds is the distance from the storm's center, or eye, to where the strongest winds are found. On average, the radius of maximum winds tends to be larger at higher latitudes. Similarly, the radius will be smaller, on average, for more intense storms. These relationships are explicitly accounted for in the model. While a smaller radius of maximum winds corresponds to greater storm intensity, it does not necessarily follow that losses will be greater. This is because a smaller radius usually results in a smaller affected area.

Forward Speed - Forward, or translational, speed is the rate at which a hurricane moves from point to point along its track. In general, the higher the latitude, the faster the hurricane's translational speed. Faster moving storms result in higher losses further inland. On the other hand, the faster a storm travels, the shorter the duration that a building is subjected to high wind speeds. In some areas, particularly along the coast, this can lead to lower losses than would otherwise be the case.

Track Angle at Landfall - Separate distributions for track angle at landfall are estimated for segments of coastline that are variable in length, depending upon the coastal orientation of that segment.

Storm Track - Once landfall location and the track angle at landfall are identified, the simulated storm track is generated using conditional probability matrices which resemble the curving and recurving tracks actually observed from the stochastic storm database.

Multiple-Landfalling Storms - In order to model multiple landfalling events as single storms, simulated storm tracks are joined statistically based on consistency of certain storm parameters.

LOCAL
INTENSITY
MODULE

Once the model probabilistically generates the hurricane's meteorological characteristics, it simulates the storm's movement along its track. Calculations of local intensity begin with the maximum over-water windspeed, and then adjustments are made for the asymmetric nature of the hurricane windfield, storm filling over land, surface friction, and relative wind speed profiles.

Asymmetry Effect - In the Northern Hemisphere, hurricane winds rotate in a counter-clockwise direction. The combined effects of hurricane winds and forward motion produce higher wind speeds on the right side of the storm, as viewed facing the storm's forward direction. The model accounts for the dynamic interaction of the forward (translational) and rotational speeds, as well as the inflow angle.

Filling Effect - As the storm moves inland its intensity begins to dissipate. Central pressure rises and the eye of the hurricane begins to "fill" as it moves away from its energy source, i.e., warm ocean water. The model filling equations are a function of the geographic location (particularly distance from coastline) and the time elapsed since landfall. Rates of filling vary by region, consistent with historical observations.

Surface Friction Effect - Differences in surface terrain (or land use/land cover) also affect windspeeds. Wind velocity profiles typically show higher wind speeds at higher elevations. Winds travel more slowly at ground-level because of the horizontal drag force of the earth's surface, or surface friction. The addition of obstacles such as buildings will further degrade wind speed. In general, the rougher the terrain, due to both natural and man-made obstacles, the more quickly wind speeds dissipate.

Relative Wind Speeds - The wind speed at any particular location is dependent on the radial distance between the eye of the storm and the location of interest.

DAMAGE
ESTIMATION
MODULE

The tropical cyclone model develops a complete time profile of wind speeds for each location affected by the storm, thus capturing the effect of wind duration on structures as well as the effect of peak wind speed. Damage estimation for hurricanes begins at sustained wind speeds of 40 mph and is calculated cumulatively until sustained winds are once again below 40 mph.

Separate damageability estimates exist by construction type (e.g., frame, joisted masonry, masonry non-combustible) and coverage (buildings vs. contents). Estimated hurricane damage is measured as the ratio of repair cost (i.e., expected hurricane losses) to the replacement cost of the property, capped at 80% of the replacement cost. 80% replacement cost is the exposure base, or limit of insurance, used in ISO's commercial property program.

BASIC GROUP II

RATEMAKING PROCEDURES AND LOSS COST CALCULATIONS

The following is an overview of the Basic Group II ratemaking procedures incorporating computer modeled hurricane loss costs in the hurricane-prone states.

REMOVAL OF HURRICANE LOSSES

Losses due to hurricanes reflected in the modeled hurricane loss costs are excluded from the Basic Group II loss database. Storm track data from several meteorological sources are analyzed to determine the date, location, and wind speed of each hurricane during the BG II experience period, and those losses incurred during the month of a hurricane reflected in the model are replaced with the average monthly non-hurricane losses for each rating territory. The resulting non-hurricane losses are used in the calculation of the statewide non-hurricane coverage change, the excess procedure (for CSP years, 1982 and later), and the type of policy relativities.

EXCESS PROCEDURE

The excess procedure smoothes catastrophic BG II losses due to perils other than hurricane. The procedure is based on long-term (1950 to present) statewide BG II non-hurricane experience. For those years prior to 1982 (pre-CSP), any year in which a hurricane occurred has been excluded from the excess procedure. For 1982 and later, losses incurred during the month of a hurricane have been replaced by average non-hurricane losses as described above. The normal loss ratio cutoff for each year included in the excess procedure is 0.500. From this follows the following definitions:

The Normal incurred losses for each year are those losses which do not exceed 0.500 times the earned premium for the year. The Excess incurred losses for each year are equal to the Incurred losses minus the Normal losses for the year.

$$\text{Normal Loss Ratio (NLR)} = \frac{\text{Normal Losses}}{\text{Earned Premium}}, \text{ for each year}$$

$$\text{Excess Loss Ratio (ELR)} = \frac{\text{Excess Losses}}{\text{Earned Premium}}, \text{ for each year}$$

$$\text{Excess Component} = \frac{\text{Sum of ELR's}}{\text{Sum of NLR's}}, \text{ over the long-term non-hurricane experience period}$$

The Excess Multiplier is equal to the excess component plus 1.000, and is applied to the normal non-hurricane losses used in the statewide experience review.

STATEWIDE
EXPERIENCE
LEVEL REVIEW

The statewide experience review (Table 6) is based on the latest ten years of non-hurricane loss experience. The losses are normal non-hurricane losses (i.e., hurricane losses reflected by the model have been replaced by average non-hurricane losses and the resulting losses have been capped at 0.500 times the earned premium for each year), multiplied by the excess multiplier, loss adjustment expense factor, trend factors, and loss development factors. The non-hurricane aggregate loss costs are at current manual level and have been trended to the average date of writing in the assumed effective period.

NON-HURRICANE
LOSS COST
PROVISION

The non-hurricane portion of the revised BG II loss costs for each territory (where applicable), coverage, and symbol is calculated as:

$$\text{Current Non-Hurricane Loss Cost} \times \text{Statewide Monoline Non-Hurr. Change}$$

where the statewide monoline non-hurricane change is the product of the statewide non-hurricane coverage change (Table 6) and the indicated monoline relativity found on Table 12, Column (7).

MODELED
HURRICANE
LOSS COSTS

The model produces hurricane loss costs (expected hurricane losses per \$100 of replacement cost) including demand surge and truncated at 80% of value in ZIP code, coverage, and construction detail. These loss costs are weighted together to derive expected hurricane loss costs for each rating territory, coverage, and symbol, using the latest BG II premium distribution. The hurricane loss costs are then adjusted to an 80% coinsurance, base deductible, and base limit of insurance level, and a factor is applied to reflect all loss adjustment expenses.

REVISED
BASIC GROUP II
LOSS COSTS

The revised BG II loss costs are the sum of the non-hurricane portion of the revised loss costs plus the modeled hurricane loss costs.

The statewide BG II monoline change shown on Table 1 is calculated as a weighted average of the individual loss cost changes for each territory (where applicable), coverage, and symbol. This monoline change (based on hurricane plus non-hurricane experience combined) is then used to determine the indicated loss cost adjustments by type of policy as described on Table 12.

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TABLE 35
CALCULATION OF INDICATED BASIC GROUP II LOSS COSTS

TERRITORY	COVERAGE SYMBOL	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
		ACCIDENT YEAR ENDING 03/31/18 BG II AGG. LOSS COSTS	CURRENT LOSS COST	CURRENT NON-HURR LOSS COST	STATEWIDE MONOLINE NON-HURR. CHANGE	INDICATED NON-HURR. LOSS COST (3) * (4)	HURRICANE MODELED LOSS COST	INDICATED TOTAL LOSS COST (5) + (6)	INDICATED PERCENT CHANGE (7)/(2) - 1	
Entire State	BUILDINGS	OA	116	0.023	0.021	0.977	0.021	0.002	0.023	+0.0%
		OAB	6,298	0.028	0.026	0.977	0.025	0.002	0.027	-3.6%
		OB	143,131	0.037	0.032	0.977	0.031	0.006	0.037	+0.0%
		AA	271	0.021	0.019	0.977	0.019	0.002	0.021	+0.0%
		A	2,388	0.023	0.021	0.977	0.021	0.002	0.023	+0.0%
		AB	49,821	0.028	0.026	0.977	0.025	0.002	0.027	-3.6%
		B	689,399	0.037	0.032	0.977	0.031	0.006	0.037	+0.0%
	CONTENTS	OA	40	0.030	0.028	0.977	0.027	0.002	0.029	-3.3%
		OAB	2,098	0.035	0.033	0.977	0.032	0.002	0.034	-2.9%
		OB	26,872	0.042	0.037	0.977	0.036	0.006	0.042	+0.0%
		AA	5	0.027	0.025	0.977	0.024	0.002	0.026	-3.7%
		A	206	0.030	0.028	0.977	0.027	0.002	0.029	-3.3%
		AB	10,268	0.035	0.033	0.977	0.032	0.002	0.034	-2.9%
		B	122,020	0.042	0.037	0.977	0.036	0.006	0.042	+0.0%
	SUB-TOTAL		1,052,933							-0.2%
STATE TOTAL			1,052,933							-0.2%

EXPLANATORY NOTES TO TABLE 35

CALCULATION OF REVISED BASIC GROUP II LOSS COSTS

SYMBOL
DEFINITIONS

The Basic Group II (BG II) symbol definitions are:

<u>Symbol</u>	<u>Definition</u>
AA	Superior Wind Resistive
A	Wind Resistive
AB	Semi-Wind Resistive
B	Ordinary

The OA, OAB, and OB construction symbols are based on the old construction definitions and are included for weighting purposes since not all of the experience has been reported under the revised construction definitions.

COLUMN (1) 2017 Aggregate Loss Costs

The latest accident year statewide aggregate loss costs for each symbol.

COLUMN (2) Current Loss Costs

The current manual loss costs are shown here.

COLUMN (3) Current Non-Hurricane Loss Costs

These are the current manual loss costs minus their hurricane component.

COLUMN (4) Statewide Monoline Non-Hurricane Loss Cost Change

The statewide monoline non-hurricane loss cost change is the product of the indicated statewide coverage change shown on Table 6, line (10), times the monoline normalized formula relativity shown on Table 12, column (7).

COLUMN (5) Indicated Non-Hurricane Loss Costs

The indicated non-hurricane loss costs are calculated as the current non-hurricane loss costs times the statewide non-hurricane monoline change, and reflect that portion of the indicated BG II loss costs due to non-hurricane perils.

EXPLANATORY NOTES TO TABLE 35

CALCULATION OF REVISED BASIC GROUP II LOSS COSTS (Cont'd)

COLUMN (6) Hurricane Modeled Loss Costs

These are the expected hurricane loss costs based on the computer simulation model. The model produces hurricane loss costs (expected hurricane loss per \$100 of replacement cost) by ZIP code, coverage (building vs. contents) and construction. These loss costs are weighted together using the latest year written premium to calculate expected hurricane loss costs by territory, coverage and symbol. The loss costs are then adjusted to reflect the 80% coinsurance clause, \$500 base deductible level, base limit of insurance (\$250,000 for buildings and \$50,000 for contents), and all loss adjustment expenses.

COLUMN (7) Indicated Total Loss Costs

The indicated total loss costs are equal to the sum of the revised non-hurricane loss costs plus the hurricane modeled loss costs.

COLUMN (8) Percent Change

The percentage change is the ratio of the indicated loss cost to current loss cost, minus one. The overall statewide change is a weighted average of the percent changes for each symbol based on the aggregate loss costs shown in column (1).

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COMMERCIAL PROPERTY INSURANCE

SECTION D - ADDITIONAL SUPPORTING MATERIAL

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

TABLE 36

BASIC GROUP I RATING GROUP DEFINITIONS

THE FOLLOWING CSP CLASSES COMPRISE THE BASIC GROUP I RATING GROUPS

01 APARTMENTS

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

02 OTHER HABITATIONAL

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

03 RESTAURANTS & BARS

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

04 OTHER MERCANTILES

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

05 PUBLIC BUILDINGS

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

06 CHURCHES

- 0900 Churches and Synagogues

07 SCHOOLS

- 1052 Schools, Academic

08 OFFICE AND BANKS

- 0702 Non-Governmental Offices and Banks

09 RECREATIONAL FACILITIES

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

10 HOTELS & MOTELS

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

11 HOSPITALS & NURSING HOMES

- 0851 Hospitals
- 0852 Nursing and Convalescent Homes

12 BUILDINGS UNDER CONSTRUCTION

- 1150 Buildings Under Construction

13 MOTOR VEHICLE RISKS

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

14 OTHER NON-MANUFACTURING

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

15 STORAGE

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

17 FOOD MANUFACTURING

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

18 WOOD MANUFACTURING

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

19 WEARING APPAREL

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

20 CHEMICAL MANUFACTURING

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

21 METAL MANUFACTURING

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

22 OTHER MANUFACTURING

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

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORY 01 - BUILDING AND TIME ELEMENT COVERAGE

CATEGORY 02 - APARTMENT AND CONDOMINIUM CONTENTS COVERAGE

CATEGORY 03 - OFFICE CONTENTS COVERAGE

CATEGORIES 04, 05, & 06 - MERCANTILE CONTENTS COVERAGE

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

CATEGORY 04 - MERCANTILE CONTENTS COVERAGE (HIGH)

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

CATEGORY 05 - MERCANTILE CONTENTS COVERAGE (MEDIUM)

Occupancy classes not listed in Category 04 or Category 06

CATEGORY 06 - MERCANTILE CONTENTS COVERAGE (LOW)

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

CATEGORY 07 - MOTEL & HOTEL CONTENTS COVERAGE

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

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORIES 08 & 09 - INSTITUTIONAL CONTENTS COVERAGE

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

CATEGORY 08 - INSTITUTIONAL CONTENTS COVERAGE (HIGH)

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

CATEGORY 09 - INSTITUTIONAL CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 08

CATEGORIES 10 & 11 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE

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

CATEGORY 10 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE (HIGH)

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

CATEGORY 11 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 10

TABLE 37

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONS

CATEGORIES 12 & 13 - SERVICE CONTENTS COVERAGE

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

CATEGORY 12 - SERVICE CONTENTS COVERAGE (HIGH)

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

CATEGORY 13 - SERVICE CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 12

CATEGORY 14 - CONTRACTOR CONTENTS COVERAGE

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

VERMONT
TABLE 38

BASIC GROUP I

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2014	4,852,413	2,534,318	0.522
2015	5,020,181	7,775,808	1.549
2016	5,209,428	2,627,095	0.504
2017	5,311,435	490,172	0.092
2018	5,039,938	1,514,932	0.301

VERMONT
TABLE 39

BASIC GROUP II

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL ** UNADJUSTED NON-HURRICANE INCURRED LOSSES	EXPERIENCE RATIO
2009	752,212	589,697	0.784
2010	756,318	571,787	0.756
2011	750,726	931,398	1.241
2012	754,454	453,785	0.601
2013	857,915	599,139	0.698
2014	913,427	284,061	0.311
2015	971,884	2,971,343	3.057
2016	1,028,254	174,602	0.170
2017	1,055,452	311,474	0.295
2018	1,028,121	967,902	0.941

** LOSSES INCURRED DURING THE MONTH OF A HURRICANE HAVE BEEN EXCLUDED AND REPLACED WITH AVERAGE NON-HURRICANE LOSSES.

VERMONT
TABLE 40

SPECIAL CAUSES OF LOSS

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
2014	1,908,110	1,966,452	1.031
2015	1,940,495	3,362,803	1.733
2016	1,992,680	679,727	0.341
2017	2,006,357	1,442,467	0.719
2018	1,932,464	1,342,794	0.695

OVERVIEW

LOSS ADJUSTMENT EXPENSE FACTORS

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

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

TABLE 41

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

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>Selected</u>
(1) Fire						
(a) Direct Losses Incurred	4,684,461	5,449,566	5,303,941	5,626,602	7,720,282	
(b) Direct Loss Adjustment Expense Incurred	466,590	540,067	520,392	540,922	688,647	
(2) Allied Lines						
(a) Direct Losses Incurred	4,800,449	4,486,897	4,725,289	6,319,875	17,490,979	
(b) Direct Loss Adjustment Expense Incurred	700,795	617,569	650,048	707,895	1,112,736	
(3) Loss Adjustment Expense as a Ratio to Losses						
(a) Fire (1b) / (1a)	10.0%	9.9%	9.8%	9.6%	8.9%	10.0%
(b) Allied Lines (2b) / (2a)	14.6%	13.8%	13.8%	11.2%	6.4%	12.5%

NOTE: All dollar amounts are displayed in thousands.

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

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COMMERCIAL PROPERTY INSURANCE

SECTION E - REVISED LOSS COST PAGES

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

70. CAUSES OF LOSS – BASIC FORM

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

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

Symbol	Building Loss Cost	Contents Loss Cost
AA	.021	.026-.027
A	.023	.029-.030
AB	.027-.028	.034-.035
B	.037	.042

72. CAUSES OF LOSS – SPECIAL FORM

E.2. Rating Procedure – Property Damage – Other than Builders' Risk

b.(1) Building Coverage – Loss Cost: ~~.050-.053~~

c.(2) Personal Property Coverage – Loss Costs

Occupancy Category	Loss Cost
Residential Apartments and Condominiums	.171
Offices	.109-.106
Mercantile – High	.121-.115
Mercantile – Medium	.093-.091
Mercantile – Low	.077-.075
Motels and Hotels	.052-.050
Institutional – High	.053
Institutional – Low	.035
Industrial and Processing – High	.123-.119
Industrial and Processing – Low	.090
Service – High	.106-.105
Service – Low	.078-.076
Contractors	.127-.124
Territory (County)	Territorial Multiplier
Entire State	1.000

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0755	Golf, Tennis and Similar Sport Facilities with Limited Cooking					
0756	Golf, Tennis and Similar Sport Facilities without Cooking					
0757	Clubs, Not Otherwise Classified, Including Fraternal and Union Halls					
0831	Motion Picture Studios					
0832	Theaters Excluding Drive-in Theaters					
0833	Drive-in Theaters					
0834	Skating Rinks – Roller Rinks					
0841	Bowling Alleys without Cooking					
0843	Halls and Auditoriums					
0844	Recreational Facilities, Not Otherwise Classified					
0845	Boys' and Girls' Camps					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0755	Building (1)	0.321	0.288	0.257	0.209	0.193
	Contents (2)	0.369	0.332	0.314	0.276	0.259
0756	Building (1)	0.131	0.118	0.104	0.085	0.079
	Contents (2)	0.150	0.134	0.127	0.112	0.104
0757	Building (1)	0.141	0.127	0.112	0.092	0.085
	Contents (2)	0.150	0.134	0.127	0.112	0.104
0831	Building (1)	0.110	0.098	0.089	0.072	0.065
	Contents (2)	0.127	0.113	0.107	0.095	0.089
0832	Building (1)	0.140	0.125	0.112	0.092	0.083
	Contents (2)	0.150	0.134	0.127	0.112	0.104
0833	Building (1)	0.119	0.107	0.095	0.078	0.072
	Contents (2)	0.138	0.123	0.118	0.104	0.096
0834	Building (1)	0.191	0.172	0.154	0.123	0.114
	Contents (2)	0.194	0.174	0.166	0.146	0.136
0841	Building (1)	0.194	0.174	0.154	0.127	0.117
	Contents (2)	0.202	0.183	0.173	0.152	0.142
0843	Building (1)	0.096	0.089	0.078	0.062	0.058
	Contents (2)	0.103	0.093	0.089	0.078	0.072
0844	Building (1)	0.131	0.118	0.104	0.085	0.079
	Contents (2)	0.144	0.130	0.122	0.108	0.101
0845	Building (1)	0.087	0.078	0.070	0.056	0.052
	Contents (2)	0.098	0.089	0.085	0.075	0.070
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0846	Dance Halls, Ballrooms and Discotheques					
0851	Hospitals					
0852	Nursing and Convalescent Homes					
0900	Churches and Synagogues					
0911	Dry Cleaners and Dyeing Plants, other than Self-Service					
0912	Laundries, other than Self-Service					
0913	Self-Service Laundries and Dry Cleaners					
0921	Light Hazard Service Occupancies					
0922	Service Occupancies, other than Light Hazard					
0923	Funeral Homes					
0931	Auto Parking Garages, Car Washes					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0846	Building (1)	0.180	0.164	0.144	0.118	0.108
	Contents (2)	0.177	0.157	0.152	0.133	0.123
0851	Building (1)	0.073	0.066	0.058	0.048	0.045
	Contents (2)	0.085	0.077	0.073	0.065	0.060
0852	Building (1)	0.077	0.068	0.061	0.050	0.046
	Contents (2)	0.088	0.079	0.076	0.066	0.063
0900	Building (1)	0.201	0.180	0.162	0.131	0.121
	Contents (2)	0.213	0.191	0.180	0.160	0.149
0911	Building (1)	0.356	0.321	0.287	0.232	0.215
	Contents (2)	0.420	0.378	0.358	0.315	0.294
0912	Building (1)	0.471	0.425	0.377	0.304	0.281
	Contents (2)	0.582	0.523	0.494	0.435	0.405
0913	Building (1)	0.310	0.279	0.247	0.203	0.185
	Contents (2)	0.364	0.327	0.309	0.272	0.253
0921	Building (1)	0.185	0.167	0.150	0.120	0.112
	Contents (2)	0.221	0.199	0.188	0.165	0.155
0922	Building (1)	0.204	0.185	0.165	0.134	0.123
	Contents (2)	0.250	0.226	0.215	0.189	0.177
0923	Building (1)	0.137	0.123	0.111	0.088	0.081
	Contents (2)	0.146	0.132	0.125	0.111	0.101
0931	Building (1)	0.103	0.091	0.083	0.067	0.061
	Contents (2)	0.119	0.106	0.103	0.088	0.084
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0932	Gasoline Service Stations					
0933	Motor Vehicle and Aircraft Repair, with or without Sales					
0934	Tire Recapping and Vulcanizing, with or without Sales					
0940	Aircraft Hangars without Repair					
0951	Gambling Casinos with Limited Cooking Restaurants					
0952	Gambling Casinos without Restaurants					
1000	Penal Institutions					
1051	Museums, Libraries, Art Galleries (Non-Profit)					
1052	Schools, Academic					
1070	Fire Departments, Police, Sewage, Water Works and Other Public Buildings					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0932	Building (1)	0.145	0.130	0.117	0.093	0.086
	Contents (2)	0.177	0.160	0.150	0.134	0.125
0933	Building (1)	0.124	0.110	0.100	0.081	0.073
	Contents (2)	0.153	0.140	0.131	0.117	0.107
0934	Building (1)	0.160	0.143	0.127	0.104	0.097
	Contents (2)	0.189	0.170	0.161	0.141	0.134
0940	Building (1)	0.077	0.070	0.062	0.050	0.047
	Contents (2)	0.097	0.086	0.083	0.071	0.068
0951	Building (1)	0.374	0.338	0.301	0.244	0.226
	Contents (2)	0.414	0.371	0.351	0.310	0.289
0952	Building (1)	0.127	0.113	0.102	0.080	0.076
	Contents (2)	0.182	0.164	0.154	0.136	0.127
1000	Building (1)	0.093	0.083	0.074	0.060	0.056
	Contents (2)	0.082	0.073	0.070	0.061	0.057
1051	Building (1)	0.059	0.053	0.047	0.038	0.035
	Contents (2)	0.074	0.068	0.064	0.057	0.053
1052	Building (1)	0.083	0.075	0.067	0.055	0.050
	Contents (2)	0.096	0.085	0.081	0.071	0.067
1070	Building (1)	0.088	0.081	0.072	0.059	0.054
	Contents (2)	0.108	0.097	0.091	0.079	0.074
Territory		Territorial Multiplier				
Entire State (Vermont)		1.000				

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85. BASIC GROUP I CLASS LOSS COSTS

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0074	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – Up to 10 Units					
0075	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – 11 to 30 Units					
0076	Boarding and Lodging Houses, Rooming Houses, Fraternities and Sororities, Dormitories – Over 30 Units					
0077	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – Up to 10 Units					
0078	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – 11 to 30 Units					
0079	Convents, Monasteries and Rectories, Orphan Homes, Nurses' Homes, Sisters' Homes – Over 30 Units					
0196	1 Family Dwellings (Lessor's Risk)					
0197	2 Family Dwellings (Lessor's Risk)					
0198	3 or 4 Family Dwellings (Lessor's Risk)					
0311	Apartments without Mercantile Occupancies – Up to 10 Units					
0312	Apartments without Mercantile Occupancies – 11 to 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0074	Building (1)	0.140	0.127	0.112	0.091	0.084
	Contents (2)	0.142	0.129	0.121	0.106	0.100
0075	Building (1)	0.140	0.127	0.112	0.091	0.084
	Contents (2)	0.142	0.129	0.121	0.106	0.100
0076	Building (1)	0.140	0.127	0.112	0.091	0.084
	Contents (2)	0.142	0.129	0.121	0.106	0.100
0077	Building (1)	0.130	0.115	0.103	0.083	0.078
	Contents (2)	0.134	0.121	0.114	0.101	0.094
0078	Building (1)	0.130	0.115	0.103	0.083	0.078
	Contents (2)	0.134	0.121	0.114	0.101	0.094
0079	Building (1)	0.130	0.115	0.103	0.083	0.078
	Contents (2)	0.134	0.121	0.114	0.101	0.094
0196	Building (1)	0.086	0.078	0.071	0.056	0.052
	Contents (2)	0.097	0.086	0.081	0.073	0.068
0197	Building (1)	0.086	0.078	0.071	0.056	0.052
	Contents (2)	0.097	0.086	0.081	0.073	0.068
0198	Building (1)	0.086	0.078	0.071	0.056	0.052
	Contents (2)	0.097	0.086	0.081	0.073	0.068
0311	Building (1)	0.240	0.217	0.191	0.157	0.143
	Contents (2)	0.271	0.244	0.229	0.202	0.189
0312	Building (1)	0.240	0.217	0.191	0.157	0.143
	Contents (2)	0.271	0.244	0.229	0.202	0.189
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0313	Apartments without Mercantile Occupancies – Over 30 Units					
0321	Apartments with Mercantile Occupancies – Up to 10 Units					
0322	Apartments with Mercantile Occupancies – 11 to 30 Units					
0323	Apartments with Mercantile Occupancies – Over 30 Units					
0331	Residential Condominiums without Mercantile Occupancies – Up to 10 Units					
0332	Residential Condominiums without Mercantile Occupancies – 11 to 30 Units					
0333	Residential Condominiums without Mercantile Occupancies – Over 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0313	Building (1)	0.240	0.217	0.191	0.157	0.143
	Contents (2)	0.271	0.244	0.229	0.202	0.189
0321	Building (1)	0.369	0.332	0.294	0.240	0.222
	Contents (2)					
	A	0.548	0.494	0.467	0.411	0.382
	B&C	0.642	0.577	0.546	0.481	0.452
0322	Building (1)	0.369	0.332	0.294	0.240	0.222
	Contents (2)					
	A	0.548	0.494	0.467	0.411	0.382
	B&C	0.642	0.577	0.546	0.481	0.452
0323	Building (1)	0.369	0.332	0.294	0.240	0.222
	Contents (2)					
	A	0.548	0.494	0.467	0.411	0.382
	B&C	0.642	0.577	0.546	0.481	0.452
0331	Building (1)	0.133	0.120	0.107	0.085	0.081
	Contents (2)	0.117	0.105	0.101	0.088	0.081
0332	Building (1)	0.133	0.120	0.107	0.085	0.081
	Contents (2)	0.117	0.105	0.101	0.088	0.081
0333	Building (1)	0.133	0.120	0.107	0.085	0.081
	Contents (2)	0.117	0.105	0.101	0.088	0.081
Territory						Territorial Multiplier
Entire State (Vermont)						1.000

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0341	Residential Condominiums with Mercantile Occupancies – Up to 10 Units					
0342	Residential Condominiums with Mercantile Occupancies – 11 to 30 Units					
0343	Residential Condominiums with Mercantile Occupancies – Over 30 Units					
0511	Mercantile – Sole Occupancy Only – Not Otherwise Classified – Low Susceptibility					
0512	Mercantile – Sole Occupancy Only – Tire, Battery and Accessory Dealers without Tire Recapping and Vulcanizing					
0520	Mercantile – Sole Occupancy Only – Wearing Apparel, Textiles, Shoes					
0531	Mercantile – Sole Occupancy Only – Alcoholic Beverages other than Bars					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0341	Building (1)	0.208	0.187	0.169	0.135	0.123
	Contents (2)					
	A	0.238	0.215	0.201	0.178	0.166
	B&C	0.278	0.249	0.238	0.208	0.195
0342	Building (1)	0.208	0.187	0.169	0.135	0.123
	Contents (2)					
	A	0.238	0.215	0.201	0.178	0.166
	B&C	0.278	0.249	0.238	0.208	0.195
0343	Building (1)	0.208	0.187	0.169	0.135	0.123
	Contents (2)					
	A	0.238	0.215	0.201	0.178	0.166
	B&C	0.278	0.249	0.238	0.208	0.195
0511	Building (1)	0.192	0.173	0.154	0.124	0.115
	Contents (2)	0.378	0.341	0.322	0.284	0.266
0512	Building (1)	0.182	0.165	0.146	0.118	0.109
	Contents (2)	0.337	0.303	0.285	0.252	0.235
0520	Building (1)	0.228	0.205	0.182	0.148	0.137
	Contents (2)	0.492	0.444	0.421	0.369	0.344
0531	Building (1)	0.195	0.174	0.156	0.127	0.115
	Contents (2)	0.398	0.358	0.337	0.300	0.279
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
1150	Builders' Risk					
1180	Vacant Buildings – See CSP Class Code of previous or intended occupancy. Add loss cost of .015 unless Class Code of previous or intended occupancy is 0580, 0742-0747, 0833, 0834, 0841, 0843, 0844, 0846, 0900, 0951, 0952, 1051 or 1052.					
1211	Freight Terminals					
1212	General Storage Warehouses – Bailee					
1213	Miscellaneous Products Storage – (Other Than Retail Or Wholesale Or Cold Storage)					
1220	Household Goods Storage					
1230	Cold Storage Warehouses					
1400	Waste and Reclaimed Materials Including Yards					
1650	Building Supply Yards, Including Retail Lumberyards, Coal and Coke Yards					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
1150	Building (1)	0.118	0.107	0.094	0.077	0.070
1211	Building (1)	0.330	0.298	0.264	0.215	0.198
	Contents (2)	0.388	0.350	0.330	0.291	0.271
1212	Building (1)	0.261	0.237	0.210	0.171	0.158
	Contents (2)	0.321	0.289	0.271	0.240	0.226
1213	Building (1)	0.231	0.209	0.184	0.151	0.141
	Contents (2)	0.307	0.277	0.261	0.231	0.215
1220	Building (1)	0.277	0.248	0.220	0.178	0.165
	Contents (2)	0.337	0.302	0.287	0.253	0.237
1230	Building (1)	0.239	0.215	0.191	0.156	0.144
	Contents (2)	0.326	0.293	0.277	0.243	0.227
1400	Building (1)	0.714	0.644	0.571	0.464	0.426
	Contents (2)	0.868	0.782	0.738	0.652	0.608
	Yard	1.079		0.111		
1650	Building (1)	0.425	0.383	0.340	0.277	0.256
	Contents (2)	0.538	0.485	0.460	0.404	0.378
	Yard	0.298		0.038		
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
1700 Mill Yards 1751 Oil Distributing, Oil Terminals and LPG Tank Farms – Including Stock 1752 Oil Distributing, Oil Terminals and LPG Tank Farms – Excluding Stock 2200 Baking on Premises, Delivery to Outlets 2350 Beverage Bottlers Excluding Alcoholic Beverages 2459 Distilleries and Wineries 2800 Textile Mill Products 3409 Leather and Leather Products 4809 Printing						
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
1700	Building (1)	0.347	0.312	0.279	0.227	0.209
	Contents (2)	0.531	0.474	0.450	0.399	0.371
	Yard	0.291		0.034		
1751	Building (1)	0.222	0.200	0.178	0.144	0.135
	Contents (2)	0.291	0.261	0.248	0.220	0.204
1752	Building (1)	0.210	0.189	0.167	0.137	0.126
	Contents (2)	0.209	0.187	0.177	0.156	0.144
2200	Building (1)	0.679	0.615	0.548	0.447	0.408
	Contents (2)	0.812	0.731	0.687	0.608	0.570
2350	Building (1)	0.438	0.395	0.351	0.285	0.263
	Contents (2)	0.520	0.468	0.438	0.386	0.365
2459	Building (1)	0.285	0.256	0.226	0.183	0.168
	Contents (2)	0.365	0.329	0.314	0.277	0.256
2800	Building (1)	0.509	0.462	0.413	0.335	0.308
	Contents (2)	0.672	0.606	0.570	0.502	0.472
3409	Building (1)	0.561	0.504	0.447	0.365	0.336
	Contents (2)	0.649	0.585	0.552	0.486	0.453
4809	Building (1)	0.428	0.387	0.343	0.278	0.260
	Contents (2)	0.523	0.471	0.444	0.391	0.368
Territory						
Entire State (Vermont)					Territorial Multiplier	
					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0532	Merc – Sole Occy Only – Food Products Inc. Retail Bakeries; Non-Alcoholic Beverages (Sales Only – No Baking or Cooking)					
0533	Mercantile – Sole Occupancy Only – Baking on Premises, No Delivery to Outlets					
0534	Mercantile – Sole Occupancy Only – Food Products with Limited Cooking, Excluding Bakeries					
0541	Mercantile – Sole Occupancy Only – Bars and Taverns					
0545	Mercantile – Sole Occupancy Only – Restaurants with Limited Cooking					
0550	Mercantile – Sole Occupancy Only – Motor Vehicles, No Repair					
0561	Mercantile – Sole Occupancy Only – Boat and Marine Supply Dealers					
0562	Mercantile – Sole Occupancy Only – Drugs					
0563	Mercantile – Sole Occupancy Only – Electrical Goods, Hardware and Machinery					
0564	Mercantile – Sole Occupancy Only – Furniture and Home Furnishings other than Appliances					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0532	Building (1)	0.296	0.267	0.237	0.192	0.177
	Contents (2)	0.492	0.444	0.421	0.369	0.344
0533	Building (1)	0.232	0.210	0.187	0.151	0.141
	Contents (2)	0.396	0.354	0.335	0.298	0.275
0534	Building (1)	0.325	0.293	0.260	0.211	0.196
	Contents (2)	0.412	0.372	0.352	0.311	0.289
0541	Building (1)	0.443	0.397	0.354	0.287	0.266
	Contents (2)	0.473	0.425	0.402	0.354	0.331
0545	Building (1)	0.522	0.471	0.420	0.339	0.313
	Contents (2)	0.589	0.529	0.502	0.443	0.410
0550	Building (1)	0.174	0.158	0.141	0.114	0.106
	Contents (2)	0.409	0.369	0.347	0.308	0.285
0561	Building (1)	0.186	0.166	0.147	0.118	0.111
	Contents (2)	0.409	0.369	0.347	0.308	0.285
0562	Building (1)	0.210	0.187	0.168	0.137	0.127
	Contents (2)	0.454	0.409	0.385	0.341	0.318
0563	Building (1)	0.208	0.187	0.166	0.136	0.124
	Contents (2)	0.337	0.303	0.285	0.252	0.235
0564	Building (1)	0.287	0.259	0.228	0.187	0.171
	Contents (2)	0.594	0.536	0.505	0.446	0.417
Territory						Territorial Multiplier
Entire State (Vermont)						1.000

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0565	Mercantile – Sole Occupancy Only – Jewelry					
0566	Mercantile – Sole Occupancy Only – Sporting Goods					
0567	Mercantile – Sole Occupancy Only – Not Otherwise Classified – Moderate Susceptibility					
0570	Mercantile – Sole Occupancy Only – Not Otherwise Classified – High Susceptibility					
0580	Greenhouses – Sole Occupancy Only					
0581	Mercantile – Multiple Occupancy without 0564 Occupant					
0582	Mercantile – Multiple Occupancy with 0564 Occupant					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0565	Building (1)	0.191	0.171	0.153	0.124	0.114
	Contents (2)	0.331	0.298	0.279	0.251	0.232
0566	Building (1)	0.215	0.195	0.173	0.141	0.130
	Contents (2)	0.446	0.402	0.378	0.335	0.314
0567	Building (1)	0.192	0.173	0.154	0.124	0.115
	Contents (2)	0.378	0.341	0.322	0.284	0.266
0570	Building (1)	0.192	0.173	0.154	0.124	0.115
	Contents (2)	0.398	0.358	0.337	0.300	0.279
0580	Building (1)	0.192	0.173	0.154	0.124	0.115
	Contents (2)	0.417	0.375	0.354	0.314	0.293
0581	Building (1)	0.204	0.182	0.162	0.132	0.123
	Contents (2)					
	A	0.398	0.358	0.337	0.300	0.279
	B	0.484	0.437	0.412	0.365	0.341
0582	Building (1)	0.225	0.201	0.181	0.147	0.136
	Contents (2)					
	A	0.354	0.322	0.303	0.266	0.251
	B	0.437	0.392	0.372	0.327	0.303
	C	0.396	0.354	0.335	0.298	0.275
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

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

All rates are subject to protection class and territorial multipliers.

CSP Class Codes And Description						
0701	Government Offices					
0702	Banks and Offices other than Governmental					
0742	Motels and Hotels with Limited Cooking Restaurant – Up to 10 Units					
0743	Motels and Hotels with Limited Cooking Restaurant – 11 to 30 Units					
0744	Motels and Hotels with Limited Cooking Restaurant – Over 30 Units					
0745	Motels and Hotels without Restaurant – Up to 10 Units					
0746	Motels and Hotels without Restaurant – 11 to 30 Units					
0747	Motels and Hotels without Restaurant – Over 30 Units					
CSP Class Code	Coverage	Construction (Code)				
		Frame (1)	Joisted Masonry (2)	Non-Comb. (3)	Mas. Non-Comb. (4)	Mod. F.R. (5) Or Fire Res. (6)
0701	Building (1)	0.097	0.086	0.075	0.062	0.057
	Contents (2)					
	A	0.106	0.097	0.088	0.079	0.074
	B	0.156	0.141	0.133	0.116	0.110
0702	Building (1)	0.120	0.107	0.095	0.079	0.072
	Contents (2)					
	A	0.143	0.127	0.121	0.106	0.099
	B	0.196	0.178	0.168	0.148	0.137
0742	Building (1)	0.183	0.162	0.146	0.118	0.109
	Contents (2)	0.198	0.180	0.170	0.150	0.139
	Building (1)	0.183	0.162	0.146	0.118	0.109
	Contents (2)	0.198	0.180	0.170	0.150	0.139
0743	Building (1)	0.183	0.162	0.146	0.118	0.109
	Contents (2)	0.198	0.180	0.170	0.150	0.139
	Building (1)	0.183	0.162	0.146	0.118	0.109
	Contents (2)	0.198	0.180	0.170	0.150	0.139
0744	Building (1)	0.183	0.162	0.146	0.118	0.109
	Contents (2)	0.198	0.180	0.170	0.150	0.139
	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
0745	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
0746	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
0747	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
	Building (1)	0.078	0.070	0.064	0.051	0.047
	Contents (2)	0.085	0.076	0.072	0.066	0.061
Territory					Territorial Multiplier	
Entire State (Vermont)					1.000	

VERMONT
COMMERCIAL PROPERTY
LOSS COST LEVEL REVIEW
ACTUARIAL ANALYSIS SUPPLEMENT

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

MONOLINE The indicated statewide monoline changes are:
INDICATIONS

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>
Basic Group I	-8.4%	-8.1%
Basic Group II	-0.2%	-2.6%
Special Causes of Loss	-3.8%	-3.5%
All Coverages Combined	-6.2%	-6.3%

The prior review's indications were filed and implemented. There was no change in the Implicit Package Modification Factors since the prior review.

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

IMPACT OF
LIMIT OF
INSURANCE (LOI)
FACTOR
IMPLEMENTATION

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

Class-rated Loss Costs

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

Please note that the Basic Group I and Basic Group II loss costs in this filing reflect revised class, construction, and coverage (building and contents) relativities associated with the introduction of LOI curves in addition to the LOI curves themselves. Therefore, dividing the revised loss costs in this filing by the off-balance factors found in Section A of filing CF-2011-RLC09, Commercial Fire and Allied Lines Loss Cost Revision for the Introduction of Limit of Insurance Curves, will not result in the same loss costs as the procedure described above.

Schedule-rated Loss Costs

Section A of filing CF-2011-RLC09, Commercial Fire and Allied Lines Loss Cost Revision for the Introduction of Limit of Insurance Curves, displayed off-balance factors that are being applied to specifically-rated loss costs to reflect the introduction of LOI curves. Those off-balance factors can be divided out of the schedule-rated loss costs effective after the implementation of the LOI curves to bring them to a level appropriate for use without the application of LOI factors.

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

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

<u>Category</u>	<u>Loss Cost Change</u>
01 Buildings	-6.1%
02 Apartment and Condominium Contents	0.0%
03 Office Contents	2.5%
04 Mercantile, Motel-Hotel, and Institutional Contents	3.0%
05 Service, Industrial-Processing and Contractors Contents	1.3%
Personal Property (Contents) Excluding Theft	2.0%

IMPACT OF
LIMIT OF
INSURANCE (LOI)
FACTOR
IMPLEMENTATION (cont'd)

Limit of Insurance Transition Rule and Public Protection Class Factors

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

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

* Frame, Joisted Masonry and Non-combustible

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

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

DATA QUALITY

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

LOSS
ADJUSTMENT
EXPENSE/LOSS
DEVELOPMENT
FACTORS

Loss adjustment expense factors have remained the same at 1.100 for BG I, and have changed from 1.120 to 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/RSALES 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	+2.9%	+2.4%	+0.5%
Contents	+1.7%	+1.1%	+0.6%
Time Element	+1.1%	-0.2%	+1.3%

Loss Trend Adjustments (LTAs)

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

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

Total Annual Loss Trend

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

<u>Subline</u>	<u>Current Review</u>			<u>Prior Review</u>		
	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>
Basic Group I	+2.6%	+2.4%	+3.9%	+2.0%	+1.6%	+2.3%
Basic Group II	+3.1%	+2.3%	+3.7%	+2.9%	+1.9%	+2.0%
Special Causes of Loss	+3.1%	+1.7%	+3.9%	+2.7%	+1.6%	+2.3%

CHANGE IN
AVERAGE LOSS
TREND

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

<u>Subline</u>	<u>Change in Average Trend</u>
Basic Group I	+2.1%
Basic Group II	+0.3%
Special Causes of Loss	+0.5%

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

PREMIUM TREND
FACTORS

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

<u>Coverage</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Buildings	+2.6%	+2.0%	+0.6%
Contents	+1.9%	+1.7%	+0.2%
Time Element	+0.6%	+1.0%	-0.4%

NET TREND

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

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Basic Group I	+0.5%	+0.1%	+0.4%
Basic Group II	+0.7%	+0.7%	0.0%
Special Causes of Loss	+0.5%	+0.4%	+0.1%

BASIC GROUP I

The statewide five year weighted average experience ratio, before credibility weighting, decreased by -7.2%, from 0.571 in the prior review to 0.530 in the current review. The decrease is due to a lower-than-average experience ratio of 0.325 for 2018 entering the experience period. The monoline relativity increased by 0.6%.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.530	0.571	0.928
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.005	1.001	1.004
Coverage Change	0.886	0.894	0.991
Monoline Relativity	1.034	1.028	1.006
Monoline Change	0.916	0.919	0.997

BASIC GROUP II

The statewide ten year weighted average experience ratio, before credibility weighting, increased by 3.0%, from 0.935 in the prior review to 0.963 in the current review. The increase is due to a higher-than-average experience ratio of 1.497 for 2018 entering the experience period and if partially offset by a higher-than-average experience ratio of 1.347 for 2008 leaving the experience period. The monoline relativity decreased by 0.9%.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.963	0.935	1.030
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.007	1.007	1.000
Coverage Change	0.996	0.989	1.007
Monoline Relativity	0.9806	0.9893	0.991
Monoline Change	0.977	0.978	0.999
Monoline Change incl. Hurricane	0.998	0.974	1.025

**SPECIAL CAUSES
OF LOSS**

The statewide five year weighted average experience ratio, before credibility weighting, decreased by -1.9%, from 0.835 in the prior review to 0.819 in the current review. The decrease is due to a lower-than-average experience ratio of 0.749 for 2018 entering the experience period. The monoline relativity increased by 0.1%.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.819	0.835	0.981
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.005	1.004	1.001
Coverage Change	0.959	0.962	0.997
Monoline Relativity	1.004	1.003	1.001
Monoline Change	0.962	0.965	0.997

PROPERTY
CLAIMS SERVICES
INFORMATION

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

<u>Date From</u>	<u>Date To</u>	<u>Perils</u>
3/11/93	3/14/93	Wind, Hail, Tornadoes, Freezing, Ice, Snow
1/14/94	1/16/94	Wind, Snow, Ice, Freezing
1/17/94	1/20/94	Wind, Snow, Ice, Freezing
1/6/96	1/9/96	Wind, Snow, Ice, Freezing, Flooding
10/18/96	10/21/96	Wind, Flooding
12/6/96	12/8/96	Wind, Ice, Snow
3/4/97	3/6/97	Wind, Hail, Tornadoes, Flooding
1/7/98	1/12/98	Ice, Snow, Wind, Flooding, Freezing
5/30/98	6/1/98	Hail, Wind, Tornadoes
8/22/98	8/25/98	Hail, Wind, Tornadoes
9/6/98	9/8/98	Hail, Wind, Flooding, Tornadoes
1/13/99	1/16/99	Ice, Hail, Snow, Wind, Flooding, Freezing
9/14/99	9/17/99	Hurricane Floyd - Wind, Flooding, Tornadoes
1/14/00	1/19/00	Ice, Snow, Wind, Freezing
1/13/03	1/25/03	Freezing, Ice, Snow, Wind
2/14/03	2/18/03	Flooding, Freezing, Ice, Snow, Wind
2/21/03	2/23/03	Flooding, Hail, Tornadoes, Wind
8/14/03	8/17/03	Power Outage
1/9/04	1/12/04	Freezing, Wind
1/14/04	1/17/04	Freezing, Ice, Snow, Wind
6/8/04	6/9/04	Flooding, Hail, Tornadoes, Wind
1/22/05	1/23/05	Freezing, Ice, Snow, Wind
10/7/05	10/15/05	Flooding, Wind
4/13/07	4/17/07	Flooding, Hail, Tornadoes, Wind
12/11/08	12/13/08	Flooding, Ice, Snow, Wind
2/23/10	2/28/10	Flooding, Freezing, Ice, Snow, Wind
8/26/11	8/28/11	Hurricane Irene - Flooding, Tornadoes, Wind
10/28/12	10/31/12	Hurricane Sandy - Flooding, Snow, Wind
2/16/15	2/22/15	Freezing, Ice, Snow, Wind
2/13/16	2/15/16	Freezing, Ice, Snow, Wind
10/29/17	10/30/17	Flooding, Wind
1/3/18	1/6/18	Flood, Freezing, Ice, Snow, Wind
4/28/18	5/5/18	Flooding, Hail, Tornadoes, Wind

PROPERTY
CLAIMS SERVICES
INFORMATION
(cont'd)

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

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

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

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

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