

LOSS COSTS – IMPLEMENTATION

SEPTEMBER 2, 2020

COMMERCIAL PROPERTY

LI-CF-2020-086

NORTH DAKOTA COMMERCIAL FIRE AND ALLIED LINES ADVISORY PROSPECTIVE LOSS COST REVISION TO BE IMPLEMENTED; EXHIBITS NEWLY PRESENTED IN EXCEL

KEY MESSAGE

Revised advisory prospective loss costs reflecting a statewide loss cost level change of +0.2% to be implemented.

BACKGROUND

In circular [LI-CF-2019-110](#), we provided you with information about the Commercial Fire and Allied Lines loss cost level experience review.

ISO ACTION

We are implementing CF-2020-RLA1, which presents a review of Commercial Fire and Allied Lines loss cost experience. Refer to the attachment(s) for complete details.

CONSIDERATION OF COVID-19

ISO has considered whether any adjustments need to be made to prospective loss costs, which are based on historical experience (pre-COVID-19), to reflect the conditions in which these loss costs will be effective (post-COVID-19). While there will almost certainly be long-term behavioral, social and economic changes as a result of COVID-19, we expect, based on the information currently available, that those changes will have negligible and/or offsetting effects on prospective loss costs.

While an economic recession may be a likely outcome of the COVID-19 pandemic, ISO would not expect it to have a quantifiable impact on Commercial Property loss costs. In examining data from the Great Recession, which impacted the United States in 2008-2010, ISO found that long-term trends in claim frequency and severity for Basic Group I, Basic Group II, and Special Cause of Loss generally continued through that recession. Occasional cases of possible deviation from long-term trends are difficult to separate from inherent volatility in Commercial Property losses due to the low-frequency, high-severity nature of BGI, and the weather-driven perils in BGII and SCL.

Therefore, ISO is not making any explicit adjustment to our Commercial Property prospective loss costs due to COVID-19.

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.

IMPORTANT NOTE

Change in Format

This circular offers several enhancements for customers. In addition to the PDF version, exhibits and loss cost tables are now available in user-friendly Excel format rather than Word. Where possible, exhibits are linked together formulaically to clarify how calculations flow through the entire ratemaking process and to enable customers to test the effects of different assumptions on the results.

To facilitate this change, the filing has been restructured. All explanatory text, for all sections of the filing, appears first; all exhibits and tables are grouped together and appear thereafter. Exhibits have been relabeled (Exhibit A1, Exhibit A2, etc.).

We invite customers to share feedback on this revised format and suggestions for further enhancements by contacting the individuals listed in the Contact Information block.

EFFECTIVE DATE

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

These changes are applicable to all policies written on or after February 1, 2021.

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

IMPACT ON THE STATISTICAL REPORTING OF LOSS COST MULTIPLIER

For the purpose of reporting your company Loss Cost Multiplier under the CSP, as of February 1, 2021, the multiplier must be based on the relationship between your gross rates and the ISO advisory prospective loss costs contained in this circular.

COMPANY ACTION

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

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

WE WILL SUBMIT OUR REFERENCE FILING TO THE INSURANCE DEPARTMENT ON JANUARY 22, 2021. 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-2020-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-2019-057](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

REVISION DISTRIBUTION INFORMATION

- **Manual And ISO Suite**

We will issue a Notice to Manualholders with an edition date of 2-21 (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 October 5, 2020. On February 1, 2021, 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 October 5, 2020 to February 1, 2021. On February 1, 2021, these loss costs will move to "Current" status. The previous "Current" becomes the most recent "Prior" and joins all previously displayed "Priors". With each subsequent loss cost revision, we will make an additional "Prior" available. Information available via toll-free telephone service will distinguish between loss costs which reflect the effect of limit of insurance (LOI) relativities and pre-LOI loss costs.

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

REFERENCE(S)

- [LI-CF-2019-110](#) (12/18/2019) Commercial Fire And Allied Lines Experience Level Indications Reviewed By ISO Staff
- [LI-CL-2019-057](#) (12/10/2019) Revised Lead Time Requirements Listing

ATTACHMENT(S)

- CF-2020-RLA1
 - Actuarial Analysis Supplement
 - Excel Workbook
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FILES AVAILABLE FOR DOWNLOAD

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

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

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DATA QUALITY

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

ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

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

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

XACTWARE SOLUTIONS, INC.

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

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

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

NORTH DAKOTA

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 +0.2% 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 12/31/2018, evaluated as of 03/31/2019.
-

DEFINITION OF THE ISO PROSPECTIVE LOSS COST

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

LOSS COST LEVEL CHANGES

The statewide monoline prospective loss cost level changes are:

<u>Coverage</u>	<u>Indicated</u>
Basic Group I	-8.7%
Basic Group II	+5.4%
Special Causes of Loss	+5.6%
Total	+0.2%

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

PRIOR ISO REVISIONS

The latest revisions in this state are:

<u>Reference Document or Filing</u>	CF-2018-RLA1	CF-2013-RLA1
<u>Rates/ Loss Costs</u>	Loss Costs	Loss Costs
<u>Dates Implemented</u>	8/1/2018	7/1/2013
<u>Changes</u>		
Basic Group I	-4.7%	+10.7%
Basic Group II	+2.3%	-2.0%
Special Causes of Loss	+1.6%	+8.0%
Total	-0.7%	+4.7%

HISTORICAL SOURCE DATA

The data used in this revision is:

- Voluntary experience for ISO reporting companies.
 - Five calendar/accident years ending 12/31/2018 for Basic Group I and Special Causes of Loss.
 - Ten calendar/accident years ending 12/31/2018 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. Therefore, the resulting changes will vary by rating group and territory (where applicable) for Basic Group I and by category for Special Causes of Loss.

STATE REQUIREMENTS

The state of North Dakota requires that any loss cost level evaluation must include experience from all possible statistical agents. Therefore, experience from the Independent Statistical Service (ISS, formerly part of the National Association of Independent Insurers) and the National Independent Statistical Service (NISS) was used in the calculation of the coverage loss cost level indications for Basic Group I, Basic Group II, and Special Causes of Loss. The ISS/NISS experience was not provided to ISO in sufficient detail for use in the distribution of loss cost level changes by rating id, rating group, and type of policy for Basic Group I; type of policy for Basic Group II; or type of policy and category for Special Causes of Loss. The ISS/NISS experience was adjusted to prospective loss cost level by applying average ISO Aggregated Loss Costs at Current Level to Earned Premium ratios to the ISS/NISS earned premiums. In addition, ISS/NISS losses were trended using average ISO trend factors, and ISO loss adjustment expense (LAE) factors were applied. ISS/NISS Basic Group II and Special Causes of Loss losses were smoothed using an annual loss ratio smoothing approach. Large loss smoothing was not possible for ISS/NISS Basic Group I losses since these losses were not provided to ISO on an individual occurrence basis.

TREND AND OTHER ADJUSTMENTS

Loss Trend

For trend purposes, the period of use for this revision is assumed to begin on 07/01/2020. To adjust the loss experience to the levels expected to prevail while the revised loss costs are in effect, trend factors have been applied to the historical incurred losses. These trend factors are based on:

- external cost indices published by the U.S. Government and information provided by Xactware Solutions, Inc.
- changes in multistate average claim costs through fourth quarter 2018.

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

<u>Coverage</u>	<u>Annual Rate of Change</u>
Buildings	+3.1%
Contents	+2.0%
Time Element	+0.8%

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	0.0%	+0.6%	+2.6%
Basic Group II	0.0%	+0.6%	+2.7%
Special Causes of Loss	+0.3%	-0.6%	+2.6%

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	+3.1%	+2.6%	+3.4%
Basic Group II	+3.1%	+2.6%	+3.5%
Special Causes of Loss	+3.4%	+1.4%	+3.4%

Premium Trend

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

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. For property damage coverages, these amount of insurance, or exposure, trend factors are adjusted for the decrease in limit of insurance factors associated with the increase in amount of insurance to calculate premium trend factors. The selected annual trends in the amount of insurance are:

<u>Line of Business</u>	<u>Buildings</u>	<u>Contents</u>	<u>Time Element</u>
Basic Group I	+2.5%	+1.8%	+0.9%
Basic Group II	+2.3%	+1.7%	+0.9%
Special Causes of Loss	+2.4%	+1.4%	+0.9%

Other Adjustments

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

TEN LARGEST COMPANY GROUPS IN ISO DATA BASE

COMMERCIAL MULTIPERIL - NON-LIABILITY (ASLOB 51)

1. Travelers Indemnity Company
2. State Auto Mutual Insurance Company
3. Cincinnati Insurance Company
4. Nodak Mutual Insurance Company
5. Tokio Marine Companies
6. Nationwide Mutual Insurance Company
7. Zurich American Insurance Company
8. Employers Mutual Casualty Company
9. QBE Insurance Corporation
10. United Fire and Casualty Company

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for year ending 12/31/2018 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 12/31/2018 is:

Commercial Multi-peril - Non-liability (ASLOB 51) - 31.2%

COMPANY
DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the loss costs contained herein are appropriate for its use. We have included within this document the information upon which ISO relied in order to enable companies to make such independent judgments.

The data underlying the enclosed material comes from companies reporting to Insurance Services Office, Inc. Therefore, the ISO experience permits the establishment of a much broader statistical ratemaking base than could be employed by using any individual company's data. A broader data base enhances the validity of ratemaking analysis derived therefrom. At the same time, however, an individual company may benefit from comparison of its own experience to the aggregate ISO experience, and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projections based on the aggregate data.

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

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COMMERCIAL PROPERTY

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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 EXHIBITS B1-B3

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

EXPLANATORY NOTES TO EXHIBITS B1-B3

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 (Exhibit C13). 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 Exhibits C7 through C9 in the supporting material.

COLUMN (3)

ADJUSTED INCURRED LOSSES

In order to assure the adequacy of the proposed loss cost level, incurred losses are adjusted to reflect the effect of inflation and other trends on loss costs. The adjustment of past losses to prospective levels is accomplished on an individual loss basis by application of current cost factors, loss projection factors and loss trend adjustments (Exhibits C10 through C12). In addition to adjusting losses to prospective cost level, the effect of inflation on the deductible portion of the loss incurred is reflected.

For each subline, incurred losses are further adjusted by an excess loss procedure which smoothes fluctuations due to large loss occurrences. The procedure removes any losses determined to be excess from the total incurred losses, resulting in normal incurred losses. These normal incurred losses (total - excess) are then multiplied by excess loss factors to calculate adjusted incurred losses (Exhibits C18 through C21). 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 Exhibit C17, and loss adjustment expense factors on Exhibit D6. Where appropriate, certain reported data elements have been adjusted prior to being used in the calculations.

COLUMN (4)

EXPERIENCE RATIO

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

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

COLUMN (5) - BG I, SCL WEIGHTS

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

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

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

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

The standards for 100% credibility are discussed in detail in Exhibits C22, C23, and C24 for Basic Group I, Basic Group II, and Special Causes of Loss, respectively.

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

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

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

The credibility weighted experience ratio is a weighted average of the weighted experience ratio (line (6) for BG I and SCL; line (5) for BG II) and the expected experience ratio (line (8) for BG I and SCL; line (7) for BG II) using the credibility factor and its complement as respective weights. For more detailed information regarding the development of the credibility factors, refer to Exhibits C22, C23, and C24.

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

The credibility weighted experience ratio yields the overall coverage loss cost level change for Basic Group I (see Exhibit B1), Basic Group II (see Exhibit B2), and Special Causes of Loss (see Exhibit B3).

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).

ISS/NISS DATA

Data reported to the Independent Statistical Service (ISS) and the National Independent Statistical Service (NISS) are also included in the ratemaking experience.

COMPOSITION OF THE RATEMAKING DATA BASE (cont'd)

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

X indicates that experience is excluded.

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

OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

STEP 2 - DISTRIBUTION OF LOSS COST LEVEL CHANGES

OBJECTIVE

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 Exhibit B4. 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 Exhibit A2 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 Exhibit B8 and to price CPP policies relative to monoline policies via the PMFs. Unlike the BG I and SCL relativity analyses, the BG II relativity analysis does not employ a simultaneous review procedure because the overall loss cost change is distributed across type of policy only. The indicated statewide monoline loss cost change is the product of the monoline type of policy relativity and the statewide loss cost level change.

OVERVIEW OF ISO ACTUARIAL PROCEDURES - COMMERCIAL PROPERTY

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

SPECIAL CAUSES OF LOSS

For Special Causes of Loss, a simultaneous iterative procedure is used as for BG I to arrive at a set of type of policy and category relativities (as displayed on Exhibit B5) 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 Exhibit B5 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.

EXPLANATORY NOTES TO EXHIBITS B4 AND B5

BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

INTRODUCTION

The explanations which follow clarify Exhibits B4 and B5, 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 EXHIBITS B4 AND B5 (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 Exhibit B6 for Basic Group I and Exhibit B7 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 EXHIBITS B4 AND B5 (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 for rating group and \$40,000,000 for type of policy.

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 EXHIBITS B4 AND B5 (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 Exhibit B4.)

The indicated monoline loss cost changes by rating group shown in Exhibit B4 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 Exhibit B4 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 Exhibit B5.) The indicated overall statewide loss cost level change shown at the bottom of Exhibit B5 is the aggregate loss cost-weighted average of the individual category changes.

EXPLANATORY NOTES TO EXHIBITS B4 AND B5 (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 Exhibit B4 and Exhibit B5.

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.

EXPLANATORY NOTES TO EXHIBITS B6 AND B7

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 Exhibit B6 and B7 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 EXHIBITS B6 AND B7 (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.

EXPLANATORY NOTES TO EXHIBIT B8

BASIC GROUP II RELATIVITY ANALYSIS

INTRODUCTION

The explanations which follow clarify Exhibit B8, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:

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

COLUMN (1)

2018 AGGREGATE LOSS COSTS

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

COLUMN (2)

2009 - 2018 EXPERIENCE RATIO

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

COLUMN (3)

FORMULA RELATIVITY

The formula relativities are the ratios of the ten year experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year experience ratio for monoline and multiline combined. These relativities represent how much better or worse than average the experience for a given type of policy is. Again, any totals which are shown are weighted averages and the display of a dash indicates that the resulting IPMF was capped. Unlike the BG I and SCL relativity analyses, the BG II analysis does not employ a simultaneous review procedure since a one way review is involved. That is, the overall loss cost change is only distributed across type of policy; no other rating variables are considered.

EXPLANATORY NOTES TO EXHIBIT B8 (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 EXHIBIT B8 (cont'd)

COLUMN (9)

INDICATED IMPLICIT PMF

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

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

For each CPP type of policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is redone to take this into account. If an IPMF has been capped it is so noted in footnote A.

COLUMN (10)

INDICATED LOSS COST CHANGES

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

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

MULTILINE
CONSIDERATIONS

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

OVERVIEW

AGGREGATE LOSS COSTS AT CURRENT LEVEL

Exhibit C1, C2 and C3 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 Exhibits C4 and C6, provide information on the on-level factors needed to bring collected aggregate loss costs to current loss cost level.

Exhibit C4 provides rate level/loss cost level histories by rating id (class vs. specific), rating group, and territory (where applicable) for Basic Group I, while Exhibit C6 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 Exhibits C1 and C3 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.

Exhibits C7, C8 and C9 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 Exhibits C10, C11 and C12 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 Exhibit C17.

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 Exhibits C22, C23 and C24 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.

EXPLANATORY NOTES TO EXHIBITS C1, C2 AND C3

LOSS COST/RATE LEVEL HISTORIES

COLUMN (1) EFFECTIVE DATE

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

COLUMN (2) LOSS COST/RATE LEVEL CHANGE

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

COLUMN (3) LOSS COST/RATE LEVEL INDEX

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

COLUMN (4) WRITTEN ADJUSTMENT (ON LEVEL) FACTORS

The factors are used to bring individual policies with inception dates prior to the effective date up to current loss cost level. For Basic Group II these are the actual factors used. However, the loss cost/rate changes for Basic Group I vary by rating group and territory (where applicable), while the loss cost/rate level changes for Special Causes of Loss vary by category. Consequently, for these coverages the on-level factors represent average factors and are not the factors actually used to adjust the aggregate loss costs on an individual policy basis. For complete loss cost/rate level histories by rating group and territory (where applicable) for Basic Group I and by category for Special Causes of Loss refer to Exhibits C4 and C5.

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.

EXPLANATORY NOTES TO EXHIBIT C4

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.

EXPLANATORY NOTES TO EXHIBIT C5

HISTORY OF BASIC GROUP II LOSS COST CHANGES BY TERRITORY

COLUMN (1) TERRITORY

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

COLUMN (2) EFFECTIVE DATE

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

COLUMN (3) SYMBOL

The construction group symbol is shown here. Refer to the explanatory notes to Exhibit C25 for the symbol definitions.

COLUMN (4) BUILDING

Building loss cost changes are shown in percent form.

COLUMN (5) CONTENTS

Contents loss cost changes are shown in percent form.

EXPLANATORY NOTES TO EXHIBIT C6

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 Exhibit D2 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.

EXPLANATORY NOTES TO EXHIBITS C7, C8 AND C9

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

EXHIBITS C7, C8
AND C9

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

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

TREND PROCEDURE (cont'd)

LOSS TREND (cont'd)

LOSS TREND ADJUSTMENT - SEVERITY

An evaluation of the latest Commercial Property insurance data shows that the cost levels inherent in the property damage coverages are increasing at a different rate than those measured by the external indices. Therefore, to insure adequate prospective loss cost levels during the period for which loss costs are to be determined, loss trend adjustments (LTA's) have been applied. These factors were developed by comparing the annual rate of change in average claim costs to the annual rate of change in the external indices. (Refer to Exhibit C12 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, 2019. 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).

EXPLANATORY NOTES TO EXHIBIT C10

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

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

EXPLANATORY NOTES TO EXHIBIT C10 (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.

EXPLANATORY NOTES TO EXHIBIT C11

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 2020 COMFAL reviews is based on internal commercial property experience through 12/31/2018 and external cost indices through 12/31/2018. Therefore, the CCF's and LPF's shown on Exhibit C12 will not necessarily match those shown on Exhibit C10. ISO has determined that the selected LTAs are appropriate to be used with the latest external indices shown on Exhibit C10.

EXPLANATORY NOTES TO EXHIBIT C12

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 12/31/2018 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 1/1/2017, for BG II it is 1/1/2014. Accordingly, there are 54 and 90 months, respectively, to the anticipated average accident date of 7/1/2021.

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 EXHIBIT C12 (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.

EXPLANATORY NOTES TO EXHIBIT C13
EXPOSURE AND PREMIUM TREND FACTORS

Exhibit C13 contains Exposure trend factors, 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 (Exhibit C13) are calculated as the Annual Written Increase in Exposure tempered by the change in Limit of Insurance factor.

COLUMNS (2)
AND (6) 07-01-2019 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 2019 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 2019 are applicable for the entire year.

COLUMNS (3)
AND (7) 10-01-2021 PROJECTED FACTORS

The 10-01-2021 factors are calculated by applying a factor to adjust the 07-01-2019 written factors to the amount of insurance level at the average date of writing, 10-01-2021. This is done using the selected annual changes in exposure or premium.

COLUMNS (4)
AND (8) 10-01-2021 EARNED EXPOSURES/PREMIUM FACTORS

The projected earned factors at the 10-01-2021 level (where 10-01-2021 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).

EXPLANATORY NOTES TO EXHIBITS C14, C15 AND C16

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 Exhibits C10 through C12, 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 March 31, 2019, 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 March 31, 2019.

Accident year ended December 31, 2018 includes all losses paid on accidents from January 1, 2018 to December 31, 2018 and all losses outstanding on those accidents as of March 31, 2019, fifteen months after the inception of the accident year. Similarly, accident years ended December 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 Exhibit C17.

EXPLANATORY NOTES TO EXHIBIT C17

LOSS DEVELOPMENT

INTRODUCTION

Exhibit C17 shows multistate incurred loss development exhibits for Basic Group I, Basic Group II and Special Causes of Loss. The exhibits on Exhibit C17 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 Exhibit C17. 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 Exhibit C18.) 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 Exhibits C10 through C11). The loss trend adjustment for frequency trend is not reflected at this step in the process. The normal breakpoint of \$250,000 for BGI and the parameters in the normal loss formula are at 2005 cost levels and therefore have been similarly adjusted to prospective cost levels.

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

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

EXCESS LOSS PROCEDURES (cont'd)

BASIC GROUP I (cont'd)

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

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

BASIC GROUP II

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

Loss ratio cutoffs are used to determine normal losses, state excess losses, and regional excess losses for each year in the long-term review period. The application of these cutoffs is detailed in the explanatory notes to Exhibit C20. The state excess losses are used to determine the state excess component of the state excess multiplier, and the regional excess losses are used to determine the regional excess component. (Table 31B is a list of states by region.) The state excess multiplier is derived in such a manner as to provide an estimate of the expected excess loss dollars per normal loss dollar.

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

SPECIAL CAUSES OF LOSS

Similar to Basic Group II, the Special Causes of Loss (SCL) smoothing procedure uses a loss ratio approach to reflect both the frequency and severity of unusual loss events which may produce significant fluctuations in loss cost levels. The excess procedure uses longer term statewide SCL experience (1985 - present) to account for the volatile nature of weather related losses (water damage from bursting pipes, or the weight of ice, sleet, or snow) which are the predominant cause of large SCL losses in a given experience period. A monthly normal loss ratio cutoff of 2.0 is used to define normal and excess losses. The resulting ratio of excess to normal losses over the long-term experience period is then applied to the normal losses used in the loss cost level review. SCL has a lower loss ratio cutoff than that used in Basic Group II in order to reflect the less catastrophic nature of unusual SCL loss events. The calculations underlying the smoothing procedure are described in the Explanatory Notes to Exhibit C21.

EXPLANATORY NOTES TO EXHIBIT C18

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.

EXPLANATORY NOTES TO EXHIBIT C19

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.

EXPLANATORY NOTES TO EXHIBIT C20

COLUMN (1)

EARNED PREMIUMS

The unadjusted earned premiums are shown for each year.

COLUMN (2)

INCURRED LOSSES

The unadjusted incurred losses are shown for each year.

COLUMN (3)

NORMAL INCURRED LOSSES

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

- for losses reported under CSP (for which month of loss detail is available), that portion of each month's losses which does not exceed 2.5 times that month's earned premiums.
- for losses reported under CRSP, SCOH and SMP (for which month of loss detail is not available), that part of each year's losses which does not exceed 0.722 times that year's earned premiums.
- for ISS and NISS losses (for which month of loss detail is not available), that part of each year's losses which does not exceed 0.722 times that year's earned premiums. Note that ISS and NISS premiums and losses are included in the BGII excess experience as of 1981.

COLUMN (4)

NORMAL LOSS RATIO

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

COLUMN (5)

STATE EXCESS LOSS RATIO

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

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

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

$$\cdot \quad EP \times \frac{2.2(LR-.722)}{(LR-.722)+2.2} \text{ if } LR > 0.722; \text{ otherwise } 0$$

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

EXPLANATORY NOTES TO EXHIBIT C20 (cont'd)

COLUMN (6)

REGIONAL EXCESS LOSS RATIO

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

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

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

LINE (7)

STATE EXCESS COMPONENT

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

LINE (8)

REGIONAL EXCESS COMPONENT

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

LINE (9)

STATE EXCESS MULTIPLIER

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

TABLE 31B

BASIC GROUP II REGIONS

NORTHEAST REGION

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

PLAINS REGION

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

SOUTHEAST REGION

ALABAMA
FLORIDA
GEORGIA
LOUISIANA
MISSISSIPPI
NORTH CAROLINA
SOUTH CAROLINA
HAWAII

MIDWEST REGION

ILLINOIS
INDIANA
KENTUCKY
MICHIGAN
OHIO
TENNESSEE
WEST VIRGINIA
WISCONSIN

WEST REGION

ARIZONA
CALIFORNIA
IDAHO
NEVADA
NEW MEXICO
OREGON
UTAH
WASHINGTON
ALASKA

EXPLANATORY NOTES TO EXHIBIT C21

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.

For ISS and NISS losses, normal losses are defined to be those losses that do not exceed 0.600 times the annual earned premium for those statistical agents. Note that ISS and NISS premiums and losses are included in the SCL excess experience as of 1997.

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 Exhibits C22, C23, and C24 for a complete explanation of the credibility standards for Basic Group I, Basic Group II, and Special Causes of Loss.

EXPLANATORY NOTES TO EXHIBITS C22, C23 AND C24

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 EXHIBITS C22, C23 AND C24 (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) Experience Period Aggregate Loss Costs - ISO/ISS/NISS

These are the state's experience period adjusted aggregate loss costs including ISS, NISS and ISO data.

LINE (9) 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 (8)), and
C = full credibility aggregate loss costs standard (line (7)).

LINE (10) Minimum Credibility

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.

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 Exhibit D6 for the underlying data).
EXPERIENCE INCLUDED	Fire and Allied Lines incurred loss and loss adjustment expense experience for 2013-2017 is displayed on Exhibit D6. The experience is based on Insurance Expense Exhibit information compiled by A.M. Best. For Allied Lines, the loss adjustment expense ratios [Exhibit D6, line (3)(b)] for a few years are distorted by unusual catastrophe-related losses and loss adjustment expenses. The selected Allied Lines loss adjustment expense factor used for this review was selected after consideration of this distortion and based on a review of average loss adjustment expense ratios over a longer time period.
SELECTED FACTORS	The following factors have been used in this review to load incurred losses for all loss adjustment expenses:

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

NORTH DAKOTA

SUMMARY OF MONOLINE PROSPECTIVE LOSS COST CHANGES (A)

COVERAGE	INDICATIONS	AGGREGATE LOSS COSTS AT CURRENT LEVEL

BASIC GROUP I	-8.7%	8,524,717
BASIC GROUP II	+5.4%	10,835,373
SPECIAL CAUSES OF LOSS	+5.7%	3,625,670
ALL COVERAGES COMBINED	+0.2%	22,985,760

(A) FOR TREND PURPOSES, THE PERIOD OF USE FOR THIS REVISION IS ASSUMED TO BEGIN ON 07/01/2020.

NORTH DAKOTA

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

RATING GROUP	DESCRIPTION	Entire State
<hr/>		
01	APARTMENTS	-8.9%
02	OTHER HABITATIONAL	-7.9%
03	RESTAURANTS & BARS	-9.1%
04	OTHER MERCANTILE RISKS	-9.1%
05	PUBLIC BUILDINGS	-9.3%
06	CHURCHES	-10.7%
07	SCHOOLS	-8.8%
08	OFFICES AND BANKS	-13.3%
09	RECREATIONAL FACILITIES	-9.4%
10	HOTELS & MOTELS	-8.3%
11	HOSPITALS & NURSING HOMES	-9.3%
12	BLDGS UNDER CONSTRUCTION	-9.3%
13	MOTOR VEHICLE RISKS	-3.7%
14	OTHER NON-MANUFACTURING	-9.3%
15	STORAGE	-9.0%
17	FOOD MANUFACTURING	-9.3%
18	WOOD MANUFACTURING	-8.7%
19	WEARING APPAREL	-9.3%
20	CHEMICAL MANUFACTURING	-9.3%
21	METAL MANUFACTURING	-5.9%
22	OTHER MANUFACTURING	-9.3%
	TOTAL	-8.7%

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

NORTH DAKOTA

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

TERRITORY

COVERAGE SYMBOL

EXHIBIT A3 DOES NOT EXIST FOR NON-HURRICANE STATES

NORTH DAKOTA

SPECIAL CAUSES OF LOSS PROSPECTIVE LOSS COST CHANGES BY CATEGORY

CATEGORY	DESCRIPTION	ENTIRE STATE

01	BUILDINGS	+5.6%
02	RES. APTS. AND CONDOS	+5.8%
03	OFFICES	+6.5%
04	MERCANTILE - HIGH	+6.4%
05	MERCANTILE - MEDIUM	+6.5%
06	MERCANTILE - LOW	+6.2%
07	MOTELS AND HOTELS	+6.0%
08	INSTITUTIONAL - HIGH	+6.0%
09	INSTITUTIONAL - LOW	+5.6%
10	INDUST-PROC - HIGH	+6.1%
11	INDUST-PROC - LOW	+6.2%
12	SERVICE - HIGH	+6.1%
13	SERVICE - LOW	+6.0%
14	CONTRACTORS	+6.1%
	STATEWIDE TOTAL	+5.7%

NORTH DAKOTA

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	-8.4%	5.4%	5.6%
32 APARTMENT	-8.6%	5.4%	5.6%
33 OFFICE	-13.3%	5.4%	5.7%
34 MERCANTILE	-8.3%	5.4%	5.7%
35 INSTITUTIONAL	-10.4%	5.4%	5.5%
36 SERVICES	-7.4%	5.4%	5.6%
37 INDUST/PROCESSING	-7.9%	5.4%	5.7%
38 CONTRACTORS	-9.4%	5.4%	5.7%

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.

NORTH DAKOTA

STATEWIDE BASIC GROUP I
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
			EXPERIENCE	
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	RATIO (3)/(2)	WEIGHTS
2014	8,031,344	5,224,464	0.651	0.10
2015	9,200,955	8,421,392	0.915	0.15
2016	9,184,606	7,883,464	0.858	0.20
2017	9,046,919	7,317,436	0.809	0.25
2018	8,524,717	2,770,074	0.325	0.30

(6) WEIGHTED EXPERIENCE RATIO = 0.674

(7) CREDIBILITY = 0.250

(8) EXPECTED EXPERIENCE RATIO = 1.008

(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO = 0.925
(0.25 X 0.674) + (0.75 X 1.008)

(10) INDICATED COVERAGE LOSS COST CHANGE = 0.925

OR -7.5%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 01/01/2021 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 07/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

NORTH DAKOTA

STATEWIDE BASIC GROUP II
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)
YEAR	AGGREGATE* LOSS COSTS	ADJUSTED** INCURRED LOSSES	EXPERIENCE RATIO (3)/(2)
2009	7,531,822	8,492,582	1.128
2010	7,473,266	8,193,653	1.096
2011	7,653,373	6,912,938	0.903
2012	8,405,965	2,515,426	0.299
2013	8,513,038	8,796,465	1.033
2014	9,040,253	10,051,264	1.112
2015	10,069,026	12,887,508	1.280
2016	10,026,693	19,498,029	1.945
2017	10,726,734	5,621,294	0.524
2018	10,835,373	9,197,223	0.849

(5) WEIGHTED EXPERIENCE RATIO = 1.017

(6) CREDIBILITY = 0.250

(7) EXPECTED EXPERIENCE RATIO = 1.010

(8) CREDIBILITY WEIGHTED EXPERIENCE RATIO
(0.25 X 1.017) + (0.75 X 1.010) = 1.012

(9) INDICATED COVERAGE LOSS COST CHANGE = 1.012

OR 1.2%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 01/01/2021 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 07/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

NORTH DAKOTA

STATEWIDE SPECIAL CAUSES OF LOSS
COVERAGE LOSS COST LEVEL EVALUATION

(1)	(2)	(3)	(4)	(5)
	AGGREGATE*	ADJUSTED**	EXPERIENCE	
YEAR	LOSS COSTS	INCURRED LOSSES	RATIO (3)/(2)	WEIGHTS
2014	3,168,875	3,430,116	1.082	0.10
2015	3,740,926	3,184,192	0.851	0.15
2016	3,724,532	4,421,691	1.187	0.20
2017	3,673,469	4,135,054	1.126	0.25
2018	3,625,670	4,288,562	1.183	0.30
(6) WEIGHTED EXPERIENCE RATIO			=	1.110
(7) CREDIBILITY			=	0.250
(8) EXPECTED EXPERIENCE RATIO			=	1.007
(9) CREDIBILITY WEIGHTED EXPERIENCE RATIO (0.25 X 1.110) + (0.75 X 1.007)			=	1.033
(10) INDICATED COVERAGE LOSS COST CHANGE			=	1.033
			OR	3.3%

* AGGREGATE LOSS COSTS ARE ADJUSTED TO CURRENT ISO LOSS COST LEVEL
AND 01/01/2021 AMOUNT OF INSURANCE LEVELS.

** INCURRED LOSSES ARE ADJUSTED TO 07/01/2021 COST LEVELS INCLUDING LOSS
DEVELOPMENT AND ALL LOSS ADJUSTMENT EXPENSES.

NORTH DAKOTA
BASIC GROUP I RELATIVITY ANALYSIS

TOP	(1) \$ LST SQ FORMULA RELATIVITY	(2) CREDIBILITY Z	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	STATEWIDE COVERAGE LOSS COST CHANGE OF OR	0.925 -7.5%
-----	-----	-----	-----	-----	-----	
10	0.606	0.036	0.982	0.987		
31	0.607	0.018	0.991	0.996		
32	0.747	0.019	0.994	0.999		
33	1.737	0.008	1.004	1.009		
34	0.758	0.058	0.984	0.989		
35	0.939	0.030	0.998	1.003		
36	2.326	0.031	1.027	1.032		
37	1.170	0.025	1.004	1.009		
38	0.369	0.018	0.982	0.987		
RATING GROUP					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE	
01	0.867	0.040	0.994	0.998	-8.9	
02	1.329	0.017	1.005	1.009	-7.9	
03	0.741	0.028	0.992	0.996	-9.1	
04	0.949	0.147	0.992	0.996	-9.1	
06	0.589	0.050	0.974	0.978	-10.7	
07	0.611	0.010	0.995	0.999	-8.8	
08	0.331	0.050	0.946	0.950	-13.3	
09	0.360	0.012	0.988	0.992	-9.4	
10	1.011	0.049	1.001	1.004	-8.3	
13	1.995	0.072	1.051	1.055	-3.7	
14	0.690	0.027	0.990	0.994	-9.3	
15	0.771	0.028	0.993	0.997	-9.0	
18	0.600	0.008	0.996	1.000	-8.7	
21	2.267	0.033	1.027	1.031	-5.9	
22	0.535	0.017	0.989	0.993	-9.3	

STATEWIDE MONOLINE LOSS COST LEVEL CHANGE: -8.7%

NORTH DAKOTA
BASIC GROUP I RELATIVITY ANALYSIS

EXAMPLE OF AN INDIVIDUAL LOSS COST CHANGE CALCULATION
FOR ENTIRE STATE

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	0.925
TERRITORIAL RELATIVITY	=	1.000
MONOLINE (TOP 10) RELATIVITY	=	0.987
RATING GROUP 01 RELATIVITY	=	0.998

INDICATED MONOLINE LOSS COSTS LEVEL CHANGE FOR RATING GROUP 01		
= 0.944 X 1.000 X 0.987 X 0.998	=	0.911
	OR	-8.9%

NORTH DAKOTA
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

TOP	(1)	(2)	(3)	(4)	STATEWIDE	1.033 3.3%
	\$ LST SQ FORMULA RELATIVITY	CREDIBILITY Z	CREDIBILITY WEIGHTED RELATIVITY	BALANCED RELATIVITY	COVERAGE LOSS COST CHANGE OF OR	

10	1.756	0.035	1.020	1.023		
31	0.940	0.012	0.999	1.003		
32	0.914	0.029	0.997	1.001		
33	0.872	0.014	0.998	1.001		
34	0.681	0.057	0.978	0.982		
35	0.964	0.028	0.999	1.002		
36	1.000	0.028	1.000	1.003		
37	0.784	0.017	0.996	0.999		
38	1.280	0.014	1.003	1.007		
CATEGORY					(5) INDICATED MONOLINE LOSS COST LEVEL CHANGE	
01	0.984	0.322	0.995	0.999	5.6	
02	0.888	0.022	0.997	1.001	5.8	
03	1.316	0.014	1.004	1.008	6.5	
04	1.167	0.019	1.003	1.007	6.4	
05	1.405	0.011	1.004	1.008	6.5	
06	1.155	0.008	1.001	1.005	6.2	
07	0.913	0.005	1.000	1.003	6.0	
08	0.907	0.007	0.999	1.003	6.0	
09	0.786	0.018	0.996	0.999	5.6	
10	1.345	0.002	1.001	1.004	6.1	
11	1.118	0.015	1.002	1.005	6.2	
12	0.985	0.018	1.000	1.004	6.1	
13	0.943	0.008	1.000	1.003	6.0	
14	1.021	0.015	1.000	1.004	6.1	
OVERALL MONOLINE LOSS COST LEVEL CHANGE					5.7%	

NORTH DAKOTA
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

EXAMPLE OF AN INDIVIDUAL LOSS COST CHANGE CALCULATION

STATEWIDE COVERAGE LOSS COST LEVEL CHANGE	=	1.033
MONOLINE (TOP 10) RELATIVITY	=	1.023
CATEGORY 01 RELATIVITY	=	0.999

INDICATED MONOLINE LOSS COST LEVEL CHANGE FOR CATEGORY 01	=	1.056
	OR	5.6%

NORTH DAKOTA

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

Entire State		(1)	(2)	(3)	(4)	(5)
		ACCIDENT YEAR ENDING 12/31/18	5 - YEAR AGGREGATE LOSS COSTS	5 - YEAR EXPERIENCE RATIO	RELATIVITY	CREDIBILITY WEIGHTED RELATIVITY
TYPE OF POLICY	CATEGORY	AGGREGATE LOSS COSTS				
10 MONOLINE	01 APARTMENTS	40,048	257,251	0.461	0.487	0.592
	02 OTHER HABITATIONAL	15,559	111,797	0.227	0.435	0.529
	03 RESTAURANTS & BARS	6,871	75,796	0.000	0.388	0.471
	04 OTHER MERCANTILE RS	252,979	1,389,612	0.823	0.640	0.778
	06 CHURCHES	1,192	6,132	0.000	0.396	0.481
	07 SCHOOLS	2,338	15,934	0.000	0.395	0.480
	08 OFFICES AND BANKS	82,295	362,008	0.000	0.357	0.434
	09 REC. FACILITIES	10,874	91,200	0.098	0.408	0.496
	10 HOTELS AND MOTELS	8,977	197,031	0.291	0.446	0.542
	13 MOTOR VEHICLE RISKS	111,551	514,405	0.957	0.639	0.776
	14 OTHER NON-MANUF.	28,840	201,536	0.057	0.388	0.471
	15 STORAGE	27,765	177,947	0.000	0.376	0.457
	18 WOOD MANUFACTURING	2,596	8,043	0.000	0.396	0.481
	21 METAL MANUFACTURING	32,462	276,085	0.000	0.366	0.445
	22 OTHER MANUFACTURING	8,258	58,821	0.000	0.390	0.474
	TOTAL*	632,605	3,743,598	0.541	0.536	0.651
31 MULTILINE	10 HOTELS AND MOTELS	290,940	1,861,217	0.254	0.504	0.612
MOTEL/HOTEL	TOTAL*	290,940	1,861,217	0.254	0.504	0.612
32 MULTILINE	01 APARTMENTS	250,326	1,415,403	0.358	0.531	0.645
APARTMENT	02 OTHER HABITATIONAL	108,702	571,280	1.803	0.820	0.996
	TOTAL*	359,028	1,986,683	0.796	0.619	0.752

33 MULTILINE	08 OFFICES AND BANKS	154,877	802,463	0.050	0.473	0.575
OFFICE	TOTAL*	154,877	802,463	0.050	0.473	0.575
34 MULTILINE	03 RESTAURANTS & BARS	173,502	971,207	0.135	0.488	0.593
MERCANTILE	04 OTHER MERCANTILE RS	632,945	3,010,907	0.796	0.638	0.775
	08 OFFICES AND BANKS	37,346	172,492	0.000	0.475	0.577
	13 MOTOR VEHICLE RISKS	191,951	1,171,756	2.397	0.971	1.180
	14 OTHER NON-MANUF.	29,815	150,760	0.000	0.475	0.577
	15 STORAGE	116,505	690,551	0.710	0.607	0.738
	TOTAL*	1,182,064	6,167,673	0.905	0.658	0.799
35 MULTILINE	02 OTHER HABITATIONAL	1,902	8,777	0.000	0.478	0.581
INSTITUTIONAL	06 CHURCHES	407,878	2,079,647	0.057	0.454	0.552
	07 SCHOOLS	72,870	383,491	0.000	0.471	0.572
	08 OFFICES AND BANKS	32,806	137,021	0.069	0.488	0.593
	09 REC. FACILITIES	27,337	132,087	0.000	0.476	0.578
	13 MOTOR VEHICLE RISKS	385	2,216	0.000	0.478	0.581
	14 OTHER NON-MANUF.	79,765	306,924	0.161	0.502	0.610
	TOTAL*	622,943	3,050,163	0.062	0.465	0.565
36 MULTILINE	03 RESTAURANTS & BARS	24,473	86,444	0.279	0.981	1.192
SERVICES	04 OTHER MERCANTILE RS	78,388	461,477	0.081	0.532	0.646
	08 OFFICES AND BANKS	78,447	432,143	0.036	0.521	0.633
	09 REC. FACILITIES	54,141	270,569	0.070	0.665	0.808
	13 MOTOR VEHICLE RISKS	246,867	1,424,113	4.408	3.885	4.721
	14 OTHER NON-MANUF.	59,713	279,582	1.312	1.310	1.592
	15 STORAGE	51,318	228,103	1.185	1.248	1.516
	21 METAL MANUFACTURING	7,074	30,025	0.000	1.024	1.244
	22 OTHER MANUFACTURING	4,200	23,195	0.000	1.042	1.266
	TOTAL*	604,621	3,235,651	2.063	2.077	2.523

37 MULTILINE	04 OTHER MERCANTILE RS	97,749	403,112	0.322	0.713	0.866
INDUST/PROCESS	08 OFFICES AND BANKS	15,148	57,517	0.000	0.955	1.160
	13 MOTOR VEHICLE RISKS	0	794	0.000	1.109	1.348
	14 OTHER NON-MANUF.	9,193	40,726	0.000	0.996	1.210
	15 STORAGE	17,947	50,848	0.000	0.971	1.180
	18 WOOD MANUFACTURING	70,648	326,689	0.000	0.577	0.701
	21 METAL MANUFACTURING	203,069	1,073,879	2.435	2.198	2.671
	22 OTHER MANUFACTURING	92,396	600,494	0.150	0.514	0.625
	TOTAL*	506,150	2,554,059	1.066	1.275	1.549
38 MULTILINE	04 OTHER MERCANTILE RS	304,703	1,601,220	0.097	0.283	0.344
CONTRACTORS	08 OFFICES AND BANKS	21,924	137,277	0.121	0.847	1.029
	14 OTHER NON-MANUF.	27,805	135,342	0.000	0.803	0.976
	TOTAL*	354,432	1,873,839	0.091	0.358	0.436
TOTAL ALL TOPS*	01 APARTMENTS	290,374	1,672,654	0.372	0.525	0.638
	02 OTHER HABITATIONAL	126,163	691,854	1.581	0.767	0.932
	03 RESTAURANTS & BARS	204,846	1,133,447	0.148	0.543	0.660
	04 OTHER MERCANTILE RS	1,366,764	6,866,328	0.570	0.559	0.679
	06 CHURCHES	409,070	2,085,779	0.057	0.454	0.551
	07 SCHOOLS	75,208	399,425	0.000	0.468	0.569
	08 OFFICES AND BANKS	422,843	2,100,921	0.037	0.497	0.604
	09 REC. FACILITIES	92,352	493,856	0.053	0.579	0.703
	10 HOTELS AND MOTELS	299,917	2,058,248	0.255	0.502	0.610
	13 MOTOR VEHICLE RISKS	550,754	3,113,284	3.005	2.210	2.685
	14 OTHER NON-MANUF.	235,131	1,114,870	0.395	0.745	0.905
	15 STORAGE	213,535	1,147,449	0.672	0.761	0.925
	18 WOOD MANUFACTURING	73,244	334,732	0.000	0.570	0.693
	21 METAL MANUFACTURING	242,605	1,379,989	2.038	1.919	2.331
	22 OTHER MANUFACTURING	104,854	682,510	0.132	0.525	0.638
	TOTAL*	4,707,660	25,275,346	0.773	0.823	1.000

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

TYPE OF POLICY	CATEGORY	(1)	(2)	(3)	(4)	(5)
		ACCIDENT YEAR	5 - YEAR	5 - YEAR		CREDIBILITY
		ENDING 12/31/18	AGGREGATE	EXPERIENCE		WEIGHTED
		AGGREGATE LOSS	LOSS COSTS	RATIO	RELATIVITY	RELATIVITY
<hr/>						
10 MONOLINE	01 BUILDINGS	184,830	1,006,721	1.466	1.344	1.752
	02 RES. APTS. AND COND	6,838	31,894	0.109	1.018	1.327
	03 OFFICES	12,507	70,729	0.078	1.003	1.308
	04 MERCANTILE - HIGH	13,550	70,123	1.622	1.354	1.765
	05 MERCANTILE - MEDIUM	2,244	23,640	0.043	1.006	1.312
	06 MERCANTILE - LOW	2,912	22,813	0.294	1.061	1.383
	07 MOTELS AND HOTELS	1,123	11,603	0.000	0.999	1.302
	08 INSTITUTIONAL - HIG	1,958	10,021	0.263	1.056	1.377
	09 INSTITUTIONAL - LOW	1,566	5,272	0.338	1.073	1.399
	10 INDUST-PROC - HIGH	1,528	4,038	1.423	1.306	1.703
	11 INDUST-PROC - LOW	10,886	71,044	0.064	1.000	1.304
	12 SERVICE - HIGH	9,570	46,634	4.052	1.893	2.468
	13 SERVICE - LOW	7,207	46,484	0.341	1.067	1.391
	14 CONTRACTORS	7,282	29,430	0.802	1.171	1.527
	TOTAL*	264,001	1,450,446	1.313	1.302	1.697
<hr/>						
31 MULTILINE	01 BUILDINGS	79,218	398,574	0.962	0.715	0.932
MOTEL/HOTEL	07 MOTELS AND HOTELS	16,339	68,944	0.688	0.665	0.867
	TOTAL*	95,557	467,518	0.915	0.707	0.921
<hr/>						
32 MULTILINE	01 BUILDINGS	156,719	877,461	0.796	0.695	0.906
APARTMENT	02 RES. APTS. AND COND	58,538	305,077	0.476	0.632	0.824
	TOTAL*	215,257	1,182,538	0.709	0.677	0.884

33 MULTILINE	01 BUILDINGS	88,535	430,150	0.438	0.621	0.810
OFFICE	03 OFFICES	29,414	139,599	4.343	1.171	1.527
	04 MERCANTILE - HIGH	0	325	0.000	1.000	1.000
	08 INSTITUTIONAL - HIG	8	224	0.000	0.586	0.764
	11 INDUST-PROC - LOW	0	241	0.000	1.000	1.000
	TOTAL*	117,957	570,539	1.412	0.758	0.988
34 MULTILINE	01 BUILDINGS	375,948	1,955,993	0.254	0.517	0.674
MERCANTILE	03 OFFICES	219	1,475	0.000	0.586	0.764
	04 MERCANTILE - HIGH	44,661	219,143	0.709	0.669	0.872
	05 MERCANTILE - MEDIUM	29,458	148,043	1.311	0.753	0.982
	06 MERCANTILE - LOW	19,770	97,693	0.465	0.636	0.829
	08 INSTITUTIONAL - HIG	89	182	0.000	0.586	0.764
	11 INDUST-PROC - LOW	0	39	0.000	1.000	1.000
	12 SERVICE - HIGH	813	7,308	0.000	0.585	0.763
	13 SERVICE - LOW	271	744	0.000	0.586	0.764
	14 CONTRACTORS	1,260	5,946	0.000	0.585	0.763
	TOTAL*	472,489	2,436,566	0.370	0.551	0.719
35 MULTILINE	01 BUILDINGS	154,680	781,028	0.972	0.733	0.956
INSTITUTIONAL	03 OFFICES	12	26	0.000	0.586	0.764
	08 INSTITUTIONAL - HIG	18,850	85,934	0.794	0.679	0.885
	09 INSTITUTIONAL - LOW	63,107	270,069	0.178	0.585	0.763
	12 SERVICE - HIGH	84	296	0.000	0.586	0.764
	13 SERVICE - LOW	7	248	0.000	0.586	0.764
	14 CONTRACTORS	17	83	0.000	0.586	0.764
	TOTAL*	236,757	1,137,684	0.746	0.690	0.899

36 MULTILINE SERVICES	01 BUILDINGS	170,153	824,827	0.707	0.763	0.995
	03 OFFICES	404	3,467	0.000	0.707	0.922
	04 MERCANTILE - HIGH	619	2,913	0.000	0.707	0.922
	05 MERCANTILE - MEDIUM	31	395	0.000	0.708	0.923
	06 MERCANTILE - LOW	98	526	0.000	0.708	0.923
	08 INSTITUTIONAL - HIGH	810	4,023	0.000	0.707	0.922
	09 INSTITUTIONAL - LOW	825	2,668	0.000	0.707	0.922
	10 INDUST-PROC - HIGH	26	116	0.000	0.708	0.923
	11 INDUST-PROC - LOW	342	1,540	0.000	0.707	0.922
	12 SERVICE - HIGH	42,150	222,415	0.370	0.711	0.927
	13 SERVICE - LOW	14,018	77,745	1.007	0.827	1.078
	14 CONTRACTORS	518	3,134	7.332	1.530	1.995
	TOTAL*	229,994	1,143,769	0.669	0.759	0.989
37 MULTILINE INDUST/PROC	01 BUILDINGS	102,722	499,378	0.050	0.581	0.757
	03 OFFICES	14	283	0.000	0.708	0.923
	04 MERCANTILE - HIGH	166	590	0.000	0.708	0.923
	10 INDUST-PROC - HIGH	5,968	30,297	1.557	0.891	1.162
	11 INDUST-PROC - LOW	32,344	156,109	0.863	0.808	1.053
	12 SERVICE - HIGH	0	71	0.000	1.000	1.000
	13 SERVICE - LOW	195	264	0.000	0.708	0.923
	14 CONTRACTORS	39	443	0.000	0.708	0.923
	TOTAL*	141,448	687,435	0.299	0.647	0.843
38 MULTILINE CONTRACTORS	01 BUILDINGS	70,945	364,883	1.500	0.971	1.266
	03 OFFICES	120	3,796	0.000	0.707	0.922
	04 MERCANTILE - HIGH	362	1,276	0.000	0.707	0.922
	06 MERCANTILE - LOW	189	583	0.000	0.708	0.923
	12 SERVICE - HIGH	220	861	0.000	0.708	0.923
	13 SERVICE - LOW	18	323	0.000	0.708	0.923
	14 CONTRACTORS	34,205	196,137	1.987	1.023	1.334
	TOTAL*	106,059	567,859	1.644	0.985	1.285

TOTAL ALL TOPS*	01 BUILDINGS	1,383,750	7,139,015	0.714	0.748	0.975
	02 RES. APTS. AND COND	65,376	336,971	0.438	0.672	0.877
	03 OFFICES	42,690	219,375	3.015	1.113	1.451
	04 MERCANTILE - HIGH	59,358	294,370	0.904	0.826	1.077
	05 MERCANTILE - MEDIUM	31,733	172,078	1.220	0.771	1.005
	06 MERCANTILE - LOW	22,969	121,615	0.438	0.691	0.901
	07 MOTELS AND HOTELS	17,462	80,547	0.644	0.687	0.895
	08 INSTITUTIONAL - HIG	21,715	100,384	0.713	0.714	0.930
	09 INSTITUTIONAL - LOW	65,498	278,009	0.180	0.598	0.780
	10 INDUST-PROC - HIGH	7,522	34,451	1.524	0.975	1.271
	11 INDUST-PROC - LOW	43,572	228,973	0.657	0.855	1.115
	12 SERVICE - HIGH	52,837	277,585	1.029	0.923	1.203
	13 SERVICE - LOW	21,716	125,808	0.763	0.902	1.177
	14 CONTRACTORS	43,321	235,173	1.791	1.041	1.357
	TOTAL*	1,879,519	9,644,354	0.785	0.767	1.000

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

NORTH DAKOTA

BASIC GROUP II RELATIVITY ANALYSIS

INDICATED TOTAL LOSS COST ADJUSTMENT: 1.2%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ACCIDENT YEAR ENDING 12/31/18	ACCIDENT YEARS 2009-2018			CREDIBILITY WEIGHTED	BALANCED FORMULA	NORMALIZED FORMULA			INDICATED TOTAL
	LOSS COSTS AT CURRENT IMPLICIT PMF	EXPERIENCE RATIO AT CURRENT PMF PMF A	FORMULA RELATIVITY (2)/ 0.938	CREDIBILITY C	RELATIVITY D	RELATIVITY E	RELATIVITY F	CURRENT IMPLICIT PMF	INDICATED IMPLICIT PMF G	LOSS COST ADJUST
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MONOLINE	844,235	1.138	1.213	0.146	1.031	1.031	1.0425			5.4%
MULTILINE	5,032,204	0.904	0.964	0.505	0.982	0.982	0.9929			0.4%
	-----	-----	-----	-----	-----	-----	-----	--		-----
COVERAGE	5,876,439	0.938	1.000			0.9890	1.0000			1.2%
MULTILINE TOP										
31 MOTEL/HOTEL	229,740	0.370	0.394	0.037	0.978	0.958	0.9687	0.846	0.786	-2.1%
32 APARTMENT	629,582	0.948	1.011	0.118	1.001	0.981	0.9919	1.071	1.019	0.3%
33 OFFICE	218,157	0.608	0.648	0.046	0.984	0.964	0.9747	0.719	0.672	-1.5%
34 MERCANTILE	1,391,627	0.798	0.851	0.211	0.969	0.950	0.9606	0.910	0.839	-2.9%
35 INSTITUTIONAL	746,202	0.860	0.917	0.135	0.989	0.969	0.9798	0.699	0.657	-0.9%
36 SERVICES	1,043,688	1.343	1.432	0.173	1.075	1.054	1.0657	1.112	1.137	7.7%
37 INDUST/PROCESS	374,596	0.487	0.519	0.072	0.965	0.946	0.9565	0.740	0.679	-3.3%
38 CONTRACTORS	398,612	1.000	1.066	0.085	1.006	0.986	0.9970	1.036	0.991	0.8%
	-----	-----	-----	-----	-----	-----	-----	--		-----
	5,032,204	0.904	0.964		1.002	0.982	0.9927	B		0.4%

FOR COLUMNS (2) THROUGH (5), MONOLINE INCLUDES TOPS

AT THESE CAPPED LEVELS AND MULTILINE EXCLUDES TOPS

B - AVERAGE WEIGHTED BY COLUMN (1)

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

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

E - (6) = (5) * (0.982/1.002)

F - (7) = (6) / 0.9890

G - (9) = (7) * (8) / (1.0425)

NORTH DAKOTA
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*
2000-09-01	-1.6	0.984	0.518	0.334
2001-10-01	4.3	1.026	0.497	0.252
2002-09-01	-13.7	0.886	0.576	0.334
2004-07-01	-12.6	0.774	0.659	0.503
2005-08-01	-10.6	0.692	0.737	0.419
2006-07-01	-15.2	0.587	0.869	0.504
2007-08-01	-7.0	0.546	0.934	0.419
2008-09-01	-15.8	0.460	1.109	0.333
2011-07-01	5.1	0.483	1.056	0.504
2013-07-01	10.7	0.535	0.953	0.504
2018-08-01	-4.7	0.510	1.000	0.419

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

NORTH DAKOTA
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*
2000-09-01	-0.8	0.992	1.410	0.334
2001-10-01	9.6	1.087	1.287	0.252
2002-09-01	2.5	1.114	1.256	0.334
2004-07-01	5.0	1.170	1.196	0.503
2005-08-01	8.2	1.266	1.105	0.419
2006-07-01	4.9	1.328	1.053	0.504
2007-08-01	5.1	1.396	1.002	0.419
2008-09-01	1.9	1.422	0.984	0.333
2011-07-01	-1.9	1.395	1.003	0.504
2013-07-01	-2.0	1.367	1.023	0.504
2018-08-01	2.3	1.399	1.000	0.419

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

NORTH DAKOTA
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*
2000-09-01	9.4	1.094	1.004	0.334
2001-10-01	13.7	1.244	0.883	0.252
2002-09-01	1.9	1.268	0.866	0.334
2004-07-01	-10.9	1.129	0.973	0.503
2005-08-01	-7.7	1.042	1.054	0.419
2006-07-01	-12.0	0.917	1.197	0.504
2007-08-01	-0.8	0.910	1.207	0.419
2008-09-01	1.3	0.922	1.191	0.333
2011-07-01	8.6	1.001	1.097	0.504
2013-07-01	8.0	1.081	1.016	0.504
2018-08-01	1.6	1.098	1.000	0.419

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

NORTH DAKOTA

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

TERRITORY: Entire State

EFFECTIVE RATING
DATE ID

RATING GROUP

		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	17	18	19	20	21	22
07/01/2006	SPEC.	-15.2	-14.8	-12.6	-14.7	-14.8	-16.7	-14.7	-15.1	-16.1	-14.7	-15.2	-14.8	-12.8	-14.8	-18.3	-15.7	-14.8	-15.7	-15.7	-15.4	-15.7
	CLASS	-15.7	-15.3	-13.1	-15.2	-15.3	-17.2	-15.2	-15.6	-16.6	-15.2	-15.7	-15.3	-13.3	-15.3	-18.8	-16.2	-14.8	-16.2	-15.7	-15.4	-16.2
08/01/2007	SPEC.	-15.3	-15.3	-14.4	-19.9	-15.0	-19.7	-15.7	-15.9	-14.4	-14.7	-15.4	-15.0	-13.3	-15.0	-13.0	-14.8	-14.2	-13.5	-13.5	-14.4	-13.5
	CLASS	1.9	1.9	2.9	-3.7	2.3	-3.5	1.4	1.2	2.9	2.6	1.8	2.3	4.3	2.3	4.6	2.5	-14.2	4.0	-13.5	-14.4	4.0
09/01/2008	SPEC.	-31.8	-30.2	-29.0	-34.6	-29.1	-35.8	-30.9	-31.1	-28.9	-29.8	-29.1	-29.1	-28.4	-29.1	-27.0	-29.5	-29.1	-28.3	-28.3	-29.4	-28.3
	CLASS	-4.7	-2.4	-0.8	-8.6	-1.0	-11.2	-3.5	-3.7	-0.6	-1.9	-1.0	-1.0	0.1	-1.0	2.0	-1.5	-29.1	0.2	-28.3	-29.4	0.2
07/01/2011	SPEC.	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0
	CLASS	18.4	20.7	22.9	18.2	20.7	21.9	20.7	25.3	21.2	19.0	20.7	20.7	21.2	20.7	25.0	20.9	-20.0	20.9	-20.0	-20.0	20.9
07/01/2013	SPEC.	18.8	18.2	20.2	17.4	19.5	14.8	19.5	20.0	18.3	17.9	19.5	19.5	18.9	19.5	19.0	18.5	18.2	18.2	18.2	19.7	18.2
	CLASS	8.1	7.6	9.4	6.8	8.7	4.4	8.7	9.2	7.7	7.3	8.7	8.7	8.2	8.7	8.3	7.9	18.2	7.6	18.2	19.7	7.6
08/01/2018	SPEC.	-8.8	-5.2	-8.6	3.8	-7.0	-12.3	-6.0	-10.1	-6.4	-8.7	-7.0	-7.0	-4.0	-7.0	-6.9	-6.0	-6.2	-7.2	-7.2	-3.3	-7.2
	CLASS	-8.8	-5.2	-8.6	3.8	-7.0	-12.3	-6.0	-10.1	-6.4	-8.7	-7.0	-7.0	-4.0	-7.0	-6.9	-6.0	-6.2	-7.2	-7.2	-3.3	-7.2

NORTH DAKOTA

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

(1)	(2)	(3)	(4)	(5)
	EFFECTIVE			
TERRITORY	DATE	SYMBOL	BUILDING	CONTENTS

EXHIBIT C5 DOES NOT EXIST FOR NON-HURRICANE STATES

NORTH DAKOTA

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
09/01/1998	4.0	-1.4	-1.1	-3.1	-0.1									
10/01/1999	12.4	5.4	6.2	4.3	3.4									
09/01/2000	11.7	5.7	6.7	5.8	2.4									
10/01/2001	17.5	8.1	11.5	2.7	7.8									
09/01/2002	4.0	-3.0	-2.2	-4.6	-2.9									
07/01/2004	-9.2	-14.4	-12.4	-17.5	-15.5									
08/01/2005	-6.3	-11.7	-11.0	-13.4	-9.7									
07/01/2006	-11.4	-16.7	-15.3	-13.6	-13.9									
08/01/2007	0.3	-6.1	-4.2	-5.5	-3.5									
09/01/2008	1.5	-2.8	-0.8	1.2	0.9									
07/01/2011	10.7	3.3	0.2	3.9	3.9	4.8	5.2	5.5	4.1	4.6	6.0	3.1	4.0	6.8
07/01/2013	8.9	8.7	3.2	4.8	6.0	4.1	5.7	6.8	5.4	6.5	5.5	5.2	5.5	8.6
08/01/2018	1.2	2.0	2.9	3.4	3.3	3.1	2.7	2.7	2.3	2.9	2.7	3.3	3.1	3.4

NORTH DAKOTA

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	1.122	0.500	1.500
32	APARTMENT	0.822	0.500	1.500
33	OFFICE	1.256	0.500	1.500
34	MERCANTILE	0.989	0.500	1.500
35	INSTITUTIONAL	1.408	0.500	1.500
36	SERVICES	0.958	0.500	1.500
37	INDUST/PROCESSING	1.277	0.500	1.500
38	CONTRACTORS	1.032	0.500	1.500

NORTH DAKOTA

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	0.846	0.500	1.500
32	APARTMENT	1.071	0.500	1.500
33	OFFICE	0.719	0.500	1.500
34	MERCANTILE	0.910	0.500	1.500
35	INSTITUTIONAL	0.699	0.500	1.500
36	SERVICES	1.112	0.500	1.500
37	INDUST/PROCESSING	0.740	0.500	1.500
38	CONTRACTORS	1.036	0.500	1.500

NORTH DAKOTA

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

CPP IMPLICIT PACKAGE MODIFICATION FACTORS (IPMFS) AND IPMF CAPS

TOP	DESCRIPTION	IPMF	LOW CAP	HIGH CAP

31	MOTEL/HOTEL	0.969	0.500	1.500
32	APARTMENT	1.155	0.500	1.500
33	OFFICE	1.100	0.500	1.500
34	MERCANTILE	0.938	0.500	1.500
35	INSTITUTIONAL	0.792	0.500	1.500
36	SERVICES	0.751	0.500	1.500
37	INDUST/PROCESSING	0.832	0.500	1.500
38	CONTRACTORS	0.794	0.500	1.500

Development of Current Cost Factors and Loss Projection Factors
For Commercial Property Building and Contents Experience
 Period ending September 30, 2019

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

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

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

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

Quarter	XCI	PPI	IMSEP	RSALES	Time Element Combined
					Index
1 Q4-2016	111.9	114.6	1.032	0.955	0.978
2 Q1-2017	112.7	115.5	1.035	0.962	0.984
3 Q2-2017	114.0	116.5	1.034	0.956	0.979
4 Q3-2017	115.0	116.3	1.04	0.958	0.983
5 Q4-2017	115.5	117.1	1.043	0.963	0.987
6 Q1-2018	116.6	117.6	1.046	0.970	0.993
7 Q2-2018	117.5	118.1	1.053	0.973	0.997
8 Q3-2018	118.4	118.3	1.058	0.974	0.999
9 Q4-2018	118.8	119.6	1.059	0.970	0.997
10 Q1-2019	119.8	120.4	1.06	0.965	0.994
11 Q2-2019	121.1	120.8	1.064	0.971	0.999
12 Q3-2019	121.9	120.8	1.064	0.970	0.998

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

$$\text{Annual Rate of Change} = +3.10\% \quad R^2 = 0.995$$

$$\text{Loss Projection Factor for Buildings} = 1.031^{22.5/12 (b)} = 1.0589$$

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

$$\text{Annual Rate of Change} = +1.96\% \quad R^2 = 0.977$$

$$\text{Loss Projection Factor for Contents} = 1.020^{22.5/12 (b)} = 1.0371$$

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

$$\text{Annual Rate of Change} = +0.81\% \quad R^2 = 0.808$$

$$\text{Loss Projection Factor for Time Element} = 1.008^{22.5/12 (b)} = 1.0152$$

(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 July 1 2020, and all one year policies, the time interval between the midpoint of the latest period (08/15/2019) and the average date of accident (07/01/2021) would be 22.5 months.

Development of Current Cost Factors and Loss Projection Factors

Part E: Calculation of Current Cost Factors (CCF)

<u>Calendar Year Averages</u>			Current Cost Factors Based on Average Index Values for <u>Period ending September 30, 2019</u>			
<u>Year</u>	<u>XCI</u>	<u>PPI</u>	<u>Time Element</u>		<u>Contents</u>	<u>Time Element</u>
2008	97.0	98.5	<u>Index</u>	<u>Buildings</u>		
2009	100.0	100.0	0.948	121.9 / 97.0 = 1.257	120.8 / 98.5 = 1.226	0.998 / 0.948 = 1.053
2010	99.3	101.8	0.940	121.9 / 100.0 = 1.219	120.8 / 100.0 = 1.208	0.998 / 0.940 = 1.062
2011	99.3	101.8	0.953	121.9 / 99.3 = 1.228	120.8 / 101.8 = 1.186	0.998 / 0.953 = 1.047
2012	100.0	105.2	0.985	121.9 / 100.0 = 1.219	120.8 / 105.2 = 1.148	0.998 / 0.985 = 1.013
2013	101.0	108.0	1.000	121.9 / 101.0 = 1.207	120.8 / 108.0 = 1.119	0.998 / 1.000 = 0.998
2014	102.7	109.7	1.003	121.9 / 102.7 = 1.187	120.8 / 109.7 = 1.101	0.998 / 1.003 = 0.995
2015	104.7	112.5	1.005	121.9 / 104.7 = 1.164	120.8 / 112.5 = 1.073	0.998 / 1.005 = 0.993
2016	109.1	113.8	0.986	121.9 / 109.1 = 1.117	120.8 / 113.8 = 1.061	0.998 / 0.986 = 1.012
2017	111.1	114.4	0.975	121.9 / 111.1 = 1.097	120.8 / 114.4 = 1.056	0.998 / 0.975 = 1.024
2018	114.3	116.4	0.983	121.9 / 114.3 = 1.066	120.8 / 116.4 = 1.038	0.998 / 0.983 = 1.015
2019	117.8	118.4	0.997	121.9 / 117.8 = 1.035	120.8 / 118.4 = 1.020	0.998 / 0.997 = 1.001

SUMMARY OF LOSS TREND ADJUSTMENTS (LTA'S)

<u>BUILDINGS</u>	<u>5 YEAR INCURRED LOSSES</u>	<u>LTA'S*</u>
BASIC GROUP I	2,958,736,918	0
BASIC GROUP II	2,951,810,348	0
SPECIAL CAUSES OF LOSS	1,665,137,986	0.3
TOTAL	7,575,685,251	0.1
<u>CONTENTS</u>		
BASIC GROUP I	869,646,578	0.6
BASIC GROUP II	263,818,148	0.6
SPECIAL CAUSES OF LOSS	606,599,719	-0.6
TOTAL	1,740,064,445	0.2
<u>TIME ELEMENT</u>		
BASIC GROUP I	389,039,379	2.6
BASIC GROUP II	70,999,922	2.7
SPECIAL CAUSES OF LOSS	123,793,433	2.6
TOTAL	583,832,734	2.6
GRAND TOTAL	9,899,582,430	0.3

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

DEVELOPMENT OF LTA'SI. EXTERNAL RATE OF CHANGE^a

Calendar	(1) Buildings Current	(2) Contents Current	(3) Time Element	(4) Basic Group I (BGI)& Special Causes of Loss (SCL) Weights	(5) Basic Group II (BGII) Weights
Year	Cost Factor	Cost Factor	Cost Factor		
2008	1.188	1.196	1.061		0.10
2009	1.197	1.175	1.046		0.10
2010	1.188	1.137	1.012		0.10
2011	1.176	1.108	0.997		0.10
2012	1.157	1.090	0.994		0.10
2013	1.135	1.063	0.992	0.10	0.10
2014	1.089	1.051	1.011	0.15	0.10
2015	1.069	1.045	1.023	0.20	0.10
2016	1.039	1.028	1.014	0.25	0.10
2017	1.008	1.010	1.000	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))	1.053	1.033	1.009
Basic Group II (Weighted on Column (5))	1.125	1.090	1.015

(7) LOSS PROJECTION FACTORS

	Buildings	Contents	Time Element
Annual Rate of Change	0.029	0.017	0.010
Loss Projection Factor: ^b $(1.0 + \text{Annual Rate of Change})^{(X/12)}$	1.079	1.045	1.026

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

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss	1.136	1.079	1.035
Basic Group II	1.214	1.139	1.041

(9) EXTERNAL ANNUAL RATE OF CHANGE^c

	Buildings	Contents	Time Element
Basic Group I and Special Causes of Loss: $(\text{Total Trend Factor})^{12/54}$	1.029	1.017	1.008
Basic Group II: $(\text{Total Trend Factor})^{12/90}$	1.026	1.018	1.005

- (a) The Current Cost Factors and Loss Projection Factors on this exhibit are based on external economic indices through December 31, 2018 for Buildings, Contents and Time Element.
- (b) Assuming a loss cost revision date of July 1, 2020, 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, 2021) 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, 2021) is 54 months for BG I and SCL, and 90 months for BG II. The weighted midpoint is January 1, 2017 for BG I and SCL, and January 1, 2014 for BG II.

DEVELOPMENT OF LTA'SII. INTERNAL ANNUAL RATES OF CHANGE:

(10) SELECTED COMFAL

	Buildings	Contents	Time Element
Basic Group I (BGI)	1.050	1.050	1.060
Basic Group II (BGII)	1.025	1.030	1.060
Special Causes of Loss	1.035	1.025	1.060

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)	1.029	1.050	2.041	1.000	-1.000	0.000
Basic Group II (BGII)	1.026	1.025	-0.097	0.000	0.000	0.000
Special Causes of Loss	1.029	1.035	0.583	0.300	0.000	0.300

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)	1.017	1.050	3.245	1.600	-1.000	0.600
Basic Group II (BGII)	1.018	1.030	1.179	0.600	0.000	0.600
Special Causes of Loss	1.017	1.025	0.787	0.400	-1.000	-0.600

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)	1.008	1.060	5.159	2.600	0.000	2.600
Basic Group II (BGII)	1.005	1.060	5.473	2.700	0.000	2.700
Special Causes of Loss	1.008	1.060	5.159	2.600	0.000	2.600

(d) The external rates of change are based on external economic indices through December 31, 2018 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.

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

<u>Buildings</u>					<u>Contents</u>			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c	(5) ^a	(6) ^a	(7) ^b	(8) ^c
	Annual	7/1/2019	1/1/2021	1/1/2021	Annual	7/1/2019	1/1/2021	1/1/2021
	Written	Written	Projected	Earned	Written	Written	Projected	Earned
<u>Year</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2007	3.9%	1.368	1.432	1.460	2.4%	1.266	1.308	1.324
2008	3.5%	1.322	1.384	1.408	2.4%	1.236	1.277	1.293
2009	3.3%	1.280	1.340	1.362	2.2%	1.209	1.249	1.263
2010	2.5%	1.249	1.308	1.324	1.7%	1.189	1.228	1.239
2011	2.5%	1.219	1.276	1.292	1.8%	1.168	1.207	1.218
2012	2.7%	1.187	1.243	1.260	1.8%	1.147	1.185	1.196
2013	2.6%	1.157	1.211	1.227	2.1%	1.123	1.160	1.173
2014	2.5%	1.129	1.182	1.197	2.1%	1.100	1.136	1.148
2015	2.3%	1.104	1.156	1.169	1.9%	1.079	1.115	1.126
2016	2.1%	1.081	1.132	1.144	1.8%	1.060	1.095	1.105
2017	2.1%	1.059	1.109	1.121	1.8%	1.041	1.076	1.086
2018	2.7%	1.031	1.079	1.094	1.9%	1.022	1.056	1.066
2019	3.1%	1.000	1.047	1.063	2.2%	1.000	1.033	1.045

Notes

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.

The selected average annual changes in Amount of Insurance for projection purposes are 3.1% and 2.2% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2019 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 01/01/2021 (i.e., 6 months beyond an assumed revision date of 07/01/2020), by applying a factor of $(1.031)^{18/12}$ for Buildings and $(1.022)^{18/12}$ for Contents.

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	0
n-1	1/2
n	1/2

For example, the factors used to adjust earned exposures for the period from 01/01/2019 to 12/31/2019 to the projected level are 1.063 for Buildings and 1.045 for Contents.

EXPOSURE TREND
DEVELOPMENT OF CURRENT AND PROJECTED EARNED EXPOSURE FACTORS

Time Element				
	(1) ^a	(2) ^a	(3) ^b	(4) ^c
	Annual	7/1/2019	1/1/2021	1/1/2021
	Written	Written	Projected	Earned
<u>Year</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2007	1.3%	1.116	1.131	1.139
2008	1.3%	1.102	1.117	1.124
2009	0.8%	1.093	1.108	1.113
2010	0.7%	1.085	1.100	1.104
2011	0.8%	1.076	1.091	1.096
2012	0.8%	1.067	1.081	1.086
2013	0.9%	1.057	1.071	1.076
2014	1.0%	1.047	1.061	1.066
2015	1.1%	1.036	1.050	1.056
2016	1.1%	1.025	1.039	1.045
2017	0.9%	1.016	1.030	1.035
2018	0.7%	1.009	1.023	1.027
2019	0.9%	1.000	1.014	1.019

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 0.9%. Consequently, the written factors at 07/01/2019 levels in column (2) are brought to the level of the average date of writing in the effective period, 01/01/2021 (i.e., 6 months beyond an assumed revision date of 07/01/2020), by applying a factor of $(1.009)^{18/12}$ 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</u>
	<u>Years</u>	
n-2	0	
n-1	1/2	
n	1/2	

For example, the factor used to adjust earned exposures for the period from 01/01/2019 to 12/31/2019 to the projected level is 1.019.

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

	Buildings					Contents			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c		(5) ^a	(6) ^a	(7) ^b	(8) ^c
	Annual	7/1/2019	1/1/2021	1/1/2021		Annual	7/1/2019	1/1/2021	1/1/2021
	Written	Written	Projected	Earned		Written	Written	Projected	Earned
Year	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>		<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2007	3.1%	1.292	1.341	1.362		2.0%	1.217	1.250	1.263
2008	2.8%	1.257	1.304	1.323		2.0%	1.193	1.225	1.238
2009	2.7%	1.224	1.270	1.287		1.8%	1.172	1.204	1.215
2010	2.0%	1.200	1.245	1.258		1.4%	1.156	1.187	1.196
2011	2.0%	1.176	1.220	1.233		1.5%	1.139	1.170	1.179
2012	2.2%	1.151	1.194	1.207		1.5%	1.122	1.152	1.161
2013	2.1%	1.127	1.170	1.182		1.8%	1.102	1.132	1.142
2014	2.0%	1.105	1.147	1.159		1.8%	1.083	1.112	1.122
2015	1.9%	1.084	1.125	1.136		1.6%	1.066	1.095	1.104
2016	1.7%	1.066	1.106	1.116		1.5%	1.050	1.078	1.087
2017	1.7%	1.048	1.088	1.097		1.5%	1.034	1.062	1.070
2018	2.2%	1.025	1.064	1.076		1.6%	1.018	1.046	1.054
2019	2.5%	1.000	1.038	1.051		1.8%	1.000	1.027	1.037

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 2.5% and 1.8% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2019 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 01/01/2021 (i.e., 6 months beyond an assumed revision date of 07/01/2020), by applying a factor of $(1.025)^{18/12}$ for Buildings and $(1.018)^{18/12}$ 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>Year</u>	<u>Earning Factors</u>	<u>All</u>
	<u>Years</u>	
n-2	0	
n-1	1/2	
n	1/2	

For example, the factors used to adjust earned exposures for the period from 01/01/2019 to 12/31/2019 to the projected level are 1.051 for Buildings and 1.037 for Contents.

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

	Buildings					Contents			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c		(5) ^a	(6) ^a	(7) ^b	(8) ^c
	Annual	7/1/2019	1/1/2021	1/1/2021		Annual	7/1/2019	1/1/2021	1/1/2021
	Written	Written	Projected	Earned		Written	Written	Projected	Earned
Year	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>		<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2007	2.9%	1.265	1.309	1.328		1.8%	1.197	1.228	1.239
2008	2.6%	1.233	1.276	1.293		1.8%	1.176	1.206	1.217
2009	2.4%	1.204	1.246	1.261		1.7%	1.156	1.186	1.196
2010	1.9%	1.182	1.223	1.235		1.3%	1.141	1.170	1.178
2011	1.9%	1.160	1.200	1.212		1.4%	1.125	1.154	1.162
2012	2.0%	1.137	1.176	1.188		1.4%	1.109	1.137	1.146
2013	1.9%	1.116	1.155	1.166		1.6%	1.092	1.120	1.129
2014	1.9%	1.095	1.133	1.144		1.6%	1.075	1.103	1.112
2015	1.7%	1.077	1.114	1.124		1.4%	1.060	1.087	1.095
2016	1.6%	1.060	1.097	1.106		1.4%	1.045	1.072	1.080
2017	1.6%	1.043	1.079	1.088		1.4%	1.031	1.057	1.065
2018	2.0%	1.023	1.058	1.069		1.4%	1.017	1.043	1.050
2019	2.3%	1.000	1.035	1.047		1.7%	1.000	1.026	1.035

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 2.3% and 1.7% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2019 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 01/01/2021 (i.e., 6 months beyond an assumed revision date of 07/01/2020), by applying a factor of $(1.023)^{18/12}$ for Buildings and $(1.017)^{18/12}$ 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>Year</u> | <u>Earning Factors</u> | <u>All</u> |
|-------------|------------------------|------------|
| n-2 | | 0 |
| n-1 | | 1/2 |
| n | | 1/2 |

For example, the factors used to adjust earned exposures for the period from 01/01/2019 to 12/31/2019 to the projected level are 1.047 for Buildings and 1.035 for Contents.

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

	<u>Buildings</u>				<u>Contents</u>			
	(1) ^a	(2) ^a	(3) ^b	(4) ^c	(5) ^a	(6) ^a	(7) ^b	(8) ^c
	Annual	7/1/2019	1/1/2021	1/1/2021	Annual	7/1/2019	1/1/2021	1/1/2021
	Written	Written	Projected	Earned	Written	Written	Projected	Earned
<u>Year</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>	<u>Increase</u>	<u>Factors</u>	<u>Factors</u>	<u>Factors</u>
2007	3.0%	1.275	1.321	1.341	1.6%	1.165	1.190	1.200
2008	2.7%	1.241	1.286	1.304	1.6%	1.147	1.171	1.181
2009	2.5%	1.211	1.255	1.271	1.4%	1.131	1.155	1.163
2010	1.9%	1.188	1.231	1.243	1.1%	1.119	1.143	1.149
2011	1.9%	1.166	1.208	1.220	1.2%	1.106	1.129	1.136
2012	2.1%	1.142	1.183	1.196	1.2%	1.093	1.116	1.123
2013	2.0%	1.120	1.161	1.172	1.4%	1.078	1.101	1.109
2014	1.9%	1.099	1.139	1.150	1.4%	1.063	1.085	1.093
2015	1.8%	1.080	1.119	1.129	1.2%	1.050	1.072	1.079
2016	1.6%	1.063	1.101	1.110	1.2%	1.038	1.060	1.066
2017	1.6%	1.046	1.084	1.093	1.2%	1.026	1.048	1.054
2018	2.1%	1.024	1.061	1.073	1.2%	1.014	1.035	1.042
2019	2.4%	1.000	1.036	1.049	1.4%	1.000	1.021	1.028

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 2.4% and 1.4% for Buildings and Contents, respectively. Consequently, the written factors at 07/01/2019 levels in column (2) and column (6) are brought to the level of the average date of writing in the effective period, 01/01/2021 (i.e., 6 months beyond an assumed revision date of 07/01/2020), by applying a factor of $(1.024)^{18/12}$ 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:
- | <u>Year</u> | <u>Earning Factors</u> | <u>All</u> |
|-------------|------------------------|------------|
| n-2 | | 0 |
| n-1 | | 1/2 |
| n | | 1/2 |

For example, the factors used to adjust earned exposures for the period from 01/01/2019 to 12/31/2019 to the projected level are 1.049 for Buildings and 1.028 for Contents.

NORTH DAKOTA

BASIC GROUP I
 ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1) UNADJUSTED INCURRED LOSSES	(2) TRENDED INCURRED LOSSES	(3) AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	(4) SPLIT % ----- BUILDINGS CONTENTS TIME ELEMENT		
2014	3,206,067	4,173,779	1.302	42.4%	49.0%	8.6%
2015	5,413,803	6,709,180	1.239	48.3%	44.5%	7.2%
2016	5,747,366	7,082,789	1.232	90.6%	8.6%	0.8%
2017	5,979,631	6,963,068	1.164	68.2%	7.2%	24.6%
2018	2,119,574	2,401,830	1.133	86.4%	12.2%	1.4%

NORTH DAKOTA

BASIC GROUP II

ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1)	(2)	(3)	(4)		
	UNADJUSTED INCURRED LOSSES	TRENDED INCURRED LOSSES	AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	SPLIT %		
				----- BUILDINGS CONTENTS TIME ELEMENT		
2009	4,381,172	5,815,421	1.327	89.0%	9.4%	1.6%
2010	3,801,118	5,041,140	1.326	92.5%	7.5%	0.0%
2011	3,428,042	4,500,847	1.313	79.5%	18.6%	1.9%
2012	1,128,982	1,466,186	1.299	82.3%	17.7%	0.0%
2013	4,018,222	5,127,265	1.276	92.7%	7.3%	0.0%
2014	5,049,362	6,302,476	1.248	94.9%	5.0%	0.1%
2015	6,293,987	7,477,660	1.188	89.3%	10.2%	0.5%
2016	19,466,255	22,745,878	1.168	91.3%	6.2%	2.5%
2017	2,826,698	3,211,325	1.136	95.0%	5.0%	0.0%
2018	4,658,548	5,123,831	1.100	88.6%	5.2%	6.2%

NORTH DAKOTA

SPECIAL CAUSES OF LOSS
ADDITIONAL INFORMATION ON TREND ADJUSTMENTS

YEAR	(1) UNADJUSTED INCURRED LOSSES	(2) TRENDED INCURRED LOSSES	(3) AVERAGE TOTAL LOSS TREND FACTOR (2) / (1)	(4) SPLIT % ----- BUILDINGS CONTENTS TIME ELEMENT		
2014	1,876,814	2,415,771	1.287	76.9%	20.4%	2.7%
2015	1,813,772	2,134,289	1.177	31.1%	66.3%	2.6%
2016	2,652,584	3,140,833	1.184	83.9%	14.8%	1.3%
2017	5,891,104	6,721,744	1.141	90.4%	9.6%	0.0%
2018	5,397,461	5,924,262	1.098	40.8%	59.2%	0.0%

BASIC GROUP I
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 3/2019

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
12/31/2009	977,626,405	965,780,323	950,514,717	944,520,743	941,024,914
12/31/2010	978,864,664	958,303,301	940,670,912	931,888,334	926,387,874
12/31/2011	916,583,421	915,371,677	895,079,760	884,450,807	880,527,737
12/31/2012	892,009,368	870,892,117	856,919,329	850,490,668	846,724,018
12/31/2013	878,393,619	872,657,388	870,971,132	858,839,919	857,272,181
12/31/2014	910,886,901	884,296,396	866,820,677	856,583,433	854,241,437
12/31/2015	772,645,667	759,242,879	755,183,225	751,707,014	
12/31/2016	894,826,602	889,819,466	867,908,128		
12/31/2017	1,052,828,350	1,035,701,026			
12/31/2018	966,412,016				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
12/31/2009	0.988	0.984	0.994	0.996
12/31/2010	0.979	0.982	0.991	0.994
12/31/2011	0.999	0.978	0.988	0.996
12/31/2012	0.976	0.984	0.992	0.996
12/31/2013	0.993	0.998	0.986	0.998
12/31/2014	0.971	0.980	0.988	0.997
12/31/2015	0.983	0.995	0.995	
12/31/2016	0.994	0.975		
12/31/2017	0.984			
5 POINT AVERAGE	0.985	0.986	0.990	0.996

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $0.985 \times 0.986 \times 0.990 \times 0.996 = 0.958$
 27 MONTHS TO ULTIMATE = $0.986 \times 0.990 \times 0.996 = 0.972$
 39 MONTHS TO ULTIMATE = $0.990 \times 0.996 = 0.986$
 51 MONTHS TO ULTIMATE = $0.996 = 0.996$

BASIC GROUP II
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 3/2019

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
12/31/2009	544,798,856	567,957,147	570,258,440	572,030,890	574,779,692
12/31/2010	659,936,522	699,755,067	703,406,475	706,670,441	710,678,828
12/31/2011	1,240,951,724	1,259,634,772	1,270,746,068	1,280,654,141	1,292,422,558
12/31/2012	971,581,631	1,005,911,048	1,025,479,247	1,036,524,689	1,041,365,219
12/31/2013	632,480,093	645,534,864	647,853,273	653,835,691	663,788,538
12/31/2014	560,469,257	580,315,286	594,133,395	601,539,324	607,295,162
12/31/2015	451,865,390	470,523,671	478,562,052	484,591,509	
12/31/2016	658,860,619	690,551,431	701,309,811		
12/31/2017	761,495,271	801,502,912			
12/31/2018	628,192,350				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
12/31/2009	1.043	1.004	1.003	1.005
12/31/2010	1.060	1.005	1.005	1.006
12/31/2011	1.015	1.009	1.008	1.009
12/31/2012	1.035	1.019	1.011	1.005
12/31/2013	1.021	1.004	1.009	1.015
12/31/2014	1.035	1.024	1.012	1.010
12/31/2015	1.041	1.017	1.013	
12/31/2016	1.048	1.016		
12/31/2017	1.053			
5 POINT AVERAGE	1.040	1.016	1.011	1.009

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.040 \times 1.016 \times 1.011 \times 1.009 = 1.078$

27 MONTHS TO ULTIMATE = $1.016 \times 1.011 \times 1.009 = 1.036$

39 MONTHS TO ULTIMATE = $1.011 \times 1.009 = 1.02$

51 MONTHS TO ULTIMATE = $1.009 = 1.009$

SPECIAL CAUSES OF LOSS
INCURRED LOSSES
LOSS YEARS 2009-2018
EVALUATED AS OF 3/2019

LOSSES AS OF					
YEAR ENDING	15 MONTHS	27 MONTHS	39 MONTHS	51 MONTHS	63 MONTHS
12/31/2009	535,120,738	527,806,499	522,083,588	520,168,676	520,834,712
12/31/2010	688,689,852	678,370,681	673,269,557	673,628,890	673,798,487
12/31/2011	734,753,343	718,587,486	713,446,419	710,670,463	710,388,017
12/31/2012	389,347,263	385,747,026	384,089,541	384,804,865	386,292,636
12/31/2013	437,810,654	429,619,282	422,164,375	420,870,863	420,734,487
12/31/2014	657,611,098	655,286,823	656,795,379	656,588,670	655,480,128
12/31/2015	561,594,859	560,227,803	555,754,276	556,326,013	
12/31/2016	376,134,925	392,620,402	394,907,550		
12/31/2017	411,144,565	414,128,521			
12/31/2018	568,327,869				

RATIOS				
YEAR ENDING	27:15 MONTHS	39:27 MONTHS	51:39 MONTHS	63:51 MONTHS
12/31/2009	0.986	0.989	0.996	1.001
12/31/2010	0.985	0.992	1.001	1.000
12/31/2011	0.978	0.993	0.996	1.000
12/31/2012	0.991	0.996	1.002	1.004
12/31/2013	0.981	0.983	0.997	1.000
12/31/2014	0.996	1.002	1.000	0.998
12/31/2015	0.998	0.992	1.001	
12/31/2016	1.044	1.006		
12/31/2017	1.007			
5 POINT AVERAGE	1.005	0.996	0.999	1.000

DEVELOPMENT FACTORS TO ULTIMATE

15 MONTHS TO ULTIMATE = $1.005 \times 0.996 \times 0.999 \times 1.000 = 1$

27 MONTHS TO ULTIMATE = $0.996 \times 0.999 \times 1.000 = 0.995$

39 MONTHS TO ULTIMATE = $0.999 \times 1.000 = 0.999$

51 MONTHS TO ULTIMATE = $1.000 = 1$

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	1.064	1.133	1.206	1.284	1.366	1.454	1.548	1.648	1.754	1.867
	Prot. 5-7	1.000	1.082	1.170	1.266	1.369	1.482	1.603	1.734	1.876	2.029	2.195
	Prot. 8-10	1.000	1.063	1.130	1.202	1.277	1.358	1.444	1.535	1.632	1.735	1.844

		Amount of Insurance *										
		1	2	3	4	5	6	7	8	9	10	11
Const. 4-6	Prot. 1-4	1.000	1.052	1.107	1.164	1.225	1.289	1.356	1.427	1.501	1.579	1.661
	Prot. 5-7	1.000	1.069	1.143	1.222	1.307	1.397	1.494	1.598	1.708	1.827	1.953
	Prot. 8-10	1.000	1.051	1.104	1.160	1.219	1.281	1.346	1.414	1.486	1.562	1.641

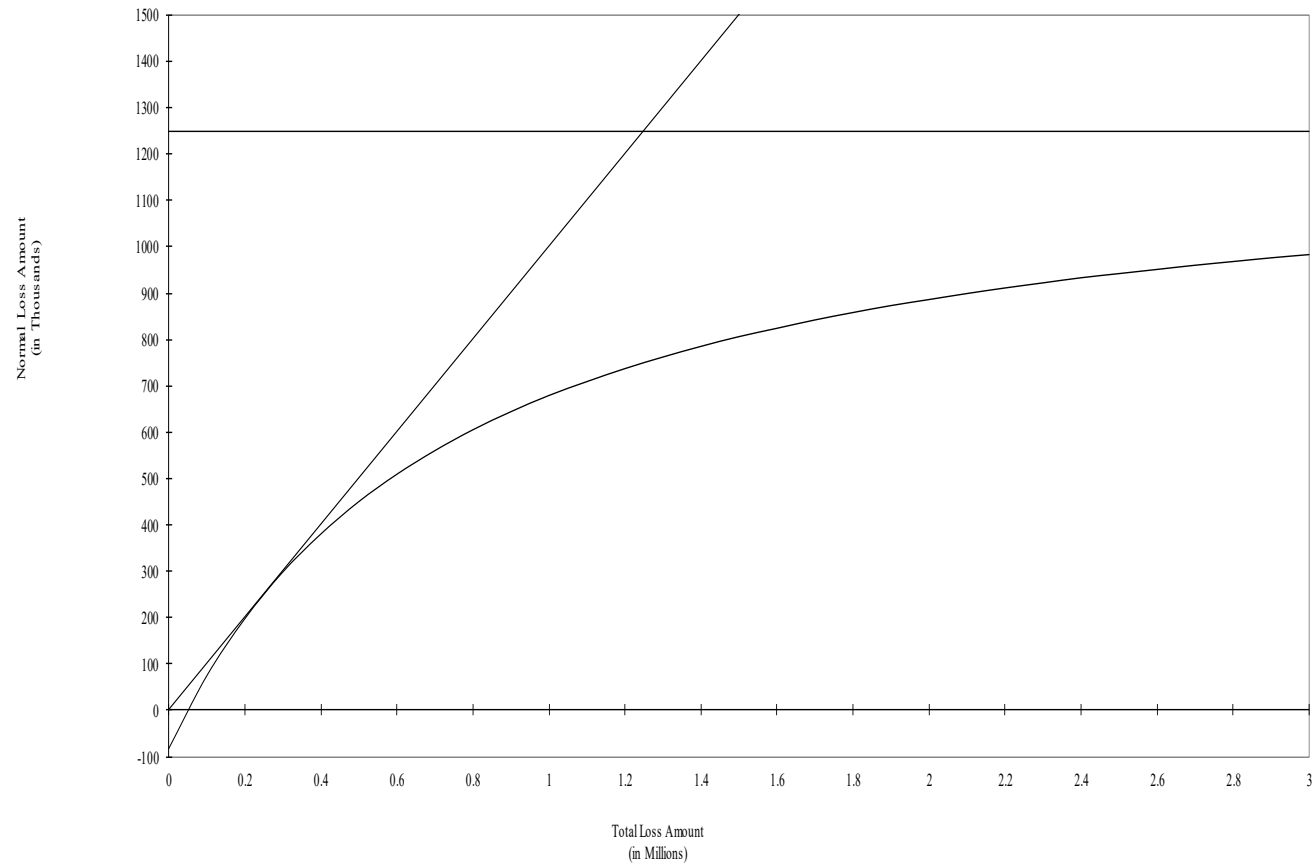
* Amount of
Insurance

Intervals

1	0-450,000
2	450,001-500,000
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

Countrywide Basic Group I
Normal vs. Total Loss Amount

Normal Loss = \$1,250,000 × (1 - (\$800,000 ÷ (Total Loss + \$750,000)))



NORTH DAKOTA

BASIC GROUP I
ADDITIONAL EXCESS LOSS INFORMATION

	(1)	(2)	(3)	(4)	(5)	(6)
				MULTI-		STATE
	TRENDED	TRENDED	STATE	STATE	ADJUSTED	AVERAGE
	INCURRED	NORMAL	NORMAL %	NORMAL	INCURRED	EXCESS
YEAR	LOSSES	LOSSES	(2)/(1)	%	LOSSES	FACTOR
						(5)/(2)
2014	4,173,779	3,938,561	94.4%	73.2%	5,083,505	1.291
2015	6,709,180	5,890,559	87.8%	75.0%	8,133,674	1.381
2016	7,082,789	7,005,343	98.9%	71.0%	7,591,025	1.084
2017	6,963,068	4,716,342	67.7%	66.0%	7,005,119	1.485
2018	2,401,830	2,401,830	100.0%	71.4%	2,668,358	1.111

NORTH DAKOTA
DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER

	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	STATE EXCESS LOSS RATIO	REGIONAL EXCESS LOSS RATIO
1950	294,685	103,698	103,698	0.352	-	-
1951	320,455	98,568	98,568	0.308	-	-
1952	345,235	98,515	98,515	0.285	-	-
1953	348,551	178,752	178,752	0.513	-	-
1954	366,730	498,307	264,779	0.722	0.494	0.143
1955	382,313	309,087	276,030	0.722	0.083	0.003
1956	378,150	202,666	202,666	0.536	-	-
1957	396,799	2,319,076	286,489	0.722	1.539	3.583
1958	427,007	201,145	201,145	0.471	-	-
1959	477,827	950,551	344,991	0.722	0.804	0.463
1960	514,317	348,776	348,776	0.678	-	-
1961	522,688	206,300	206,300	0.395	-	-
1962	538,671	293,975	293,975	0.546	-	-
1963	536,676	256,992	256,992	0.479	-	-
1964	514,434	536,493	371,421	0.722	0.280	0.041
1965	494,701	584,565	357,174	0.722	0.380	0.080
1966	494,879	952,699	357,303	0.722	0.778	0.425
1967	511,085	199,570	199,570	0.390	-	-
1968	494,366	187,711	187,711	0.380	-	-
1969	563,177	124,602	124,602	0.221	-	-
1970	805,100	195,388	195,388	0.243	-	-
1971	875,646	267,676	267,676	0.306	-	-
1972	1,064,601	330,712	330,712	0.311	-	-
1973	1,212,727	493,576	493,576	0.407	-	-
1974	1,554,207	429,015	429,015	0.276	-	-
1975	1,682,109	1,108,291	1,108,291	0.659	-	-
1976	2,530,592	716,774	716,774	0.283	-	-
1977	3,091,501	1,708,064	1,708,064	0.553	-	-
1978	3,470,062	876,754	876,754	0.253	-	-
1979	3,425,708	861,771	861,771	0.252	-	-
1980	3,273,131	2,427,031	1,926,311	0.589	0.123	0.030
1981	3,435,811	1,062,540	1,062,540	0.309	-	-
1982	3,616,893	1,321,790	1,181,834	0.327	0.034	0.005
1983	3,615,095	1,910,581	1,910,581	0.529	-	-
1984	3,642,702	1,137,408	1,137,408	0.312	-	-
1985	4,557,174	3,150,050	2,422,223	0.532	0.146	0.014
1986	5,050,806	2,836,281	2,786,275	0.552	0.009	-
1987	4,105,917	798,988	798,988	0.195	-	-
1988	3,559,636	569,190	569,190	0.160	-	-
1989	3,444,754	722,840	722,840	0.210	-	-
1990	3,631,063	1,122,200	1,122,200	0.309	-	-
1991	3,314,659	821,232	821,232	0.248	-	-
1992	3,130,259	354,789	354,789	0.113	-	-

NORTH DAKOTA
DEVELOPMENT OF BASIC GROUP II EXCESS MULTIPLIER

	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	EARNED PREMIUMS	INCURRED LOSSES	NORMAL INCURRED LOSSES	NORMAL LOSS RATIO	STATE EXCESS LOSS RATIO	REGIONAL EXCESS LOSS RATIO
1993	3,084,658	1,156,930	1,138,065	0.369	0.006	-
1994	3,137,088	2,329,877	1,699,288	0.542	0.169	0.032
1995	3,305,722	5,444,853	2,323,646	0.703	0.637	0.307
1996	3,203,082	2,647,248	1,727,545	0.539	0.199	0.088
1997	3,210,770	4,757,565	3,004,776	0.936	0.458	0.088
1998	3,113,890	1,182,938	1,182,938	0.380	-	-
1999	3,060,767	9,721,100	2,720,702	0.889	1.230	1.057
2000	3,308,002	3,209,893	2,215,755	0.670	0.257	0.044
2001	3,319,327	11,920,742	2,640,919	0.796	1.160	1.635
2002	4,035,299	1,373,634	1,373,634	0.340	-	-
2003	4,925,899	306,423	306,423	0.062	-	-
2004	5,511,522	697,223	697,223	0.127	-	-
2005	6,097,496	8,333,755	3,576,997	0.587	0.607	0.173
2006	6,507,449	1,430,968	1,430,968	0.220	-	-
2007	7,109,261	7,781,356	3,821,441	0.538	0.373	0.184
2008	5,347,786	3,040,092	1,880,306	0.352	-	0.217
2009	7,758,858	4,381,172	3,729,293	0.481	0.076	0.008
2010	8,208,487	3,801,118	3,601,122	0.439	0.024	0.001
2011	8,558,652	3,428,042	3,068,967	0.359	0.040	0.002
2012	9,902,840	1,128,982	1,128,982	0.114	-	-
2013	10,990,829	4,018,222	4,018,222	0.366	-	-
2014	12,415,201	5,049,362	4,693,790	0.378	0.028	0.001
2015	14,218,748	6,293,987	6,293,987	0.443	-	-
2016	14,456,768	19,466,255	9,634,626	0.666	0.523	0.156
2017	14,497,293	2,826,698	2,826,698	0.195	-	-
2018	14,500,170	4,658,548	4,658,548	0.321	-	-
TOTALS	260,798,763	154,261,972	103,958,750	30.348	10.457	8.780

(7) STATE EXCESS COMPONENT = (SELR / NLR) = 0.345

(8) REGIONAL EXCESS COMPONENT = 0.134

(9) STATE EXCESS MULTIPLIER = (1+SEC) * (1+REC) = 1.525

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 12/31. THE DISPLAYED YEAR 2008 INCLUDES DATA FOR FIRST QUARTER 2007 THROUGH FOURTH QUARTER 2008.

NORTH DAKOTA

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
1985	822,216	457,435	457,435	0.556	
1986	878,388	329,489	329,489	0.375	
1987	844,608	285,220	285,220	0.338	
1988	790,764	618,359	557,242	0.705	0.077
1989	1,027,236	1,093,186	770,307	0.750	0.314
1990	1,456,548	474,224	474,224	0.326	
1991	1,409,376	683,435	683,435	0.485	
1992	937,794	437,907	437,907	0.467	
1993	870,576	867,090	698,139	0.802	0.194
1994	1,007,895	913,031	669,099	0.664	0.242
1995	1,097,661	476,753	476,753	0.434	
1996	1,054,065	990,823	691,105	0.656	0.284
1997	2,364,584	4,495,786	1,916,779	0.811	1.090
1998	2,362,907	1,887,480	1,417,793	0.600	0.199
1999	2,604,378	2,325,991	2,018,134	0.775	0.118
2000	2,171,286	4,247,388	1,429,299	0.658	1.298
2001	2,003,396	2,106,727	1,427,694	0.713	0.339
2002	2,421,006	704,481	704,481	0.291	
2003	2,855,328	663,459	663,459	0.232	
2004	2,857,989	873,541	873,541	0.306	
2005	2,984,501	1,742,612	1,616,942	0.542	0.042
2006	2,842,046	1,861,825	1,051,186	0.370	0.285
2007	2,814,597	2,076,911	1,217,242	0.432	0.306
2008	2,737,250	2,037,147	1,369,801	0.500	0.244
2009	2,852,433	2,890,949	2,067,197	0.725	0.289
2010	2,993,947	1,804,861	1,740,446	0.581	0.022
2011	2,999,660	2,958,697	2,603,884	0.868	0.118
2012	3,264,992	991,759	991,759	0.304	
2013	3,631,901	1,718,856	1,718,856	0.473	
2014	4,138,760	1,876,814	1,746,478	0.422	0.031
2015	4,940,751	1,813,772	1,813,772	0.367	
2016	5,041,956	2,652,584	2,429,004	0.482	0.044
2017	5,034,586	5,891,104	2,345,425	0.466	0.704
2018	5,172,303	5,397,461	2,540,600	0.491	0.553
TOTALS		60,647,157	42,234,127	17.967	6.793

(6) STATE EXCESS COMPONENT = (SELR / NLR) = 0.378

(7) STATE EXCESS MULTIPLIER = (SELR / NLR) = 1.378

NORTH DAKOTA
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	8.884
(1c) FULL CREDIBILITY CLAIMS STANDARD ADJUSTED FOR SEVERITY ((1a) X (1b))	13,655
(2) MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	345.161
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1c)X(2)	4,713,173
(4) FIVE YEAR STATEWIDE EARNED RISKS - ISO ONLY	86,667
(5) FIVE YEAR AGGREGATE LOSS COSTS - ISO ONLY	25,275,346
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	291.637
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,374,535,634
(8) FIVE YEAR AGGREGATE LOSS COSTS - ISO/ISS/NISS	43,988,541
(9) STATEWIDE CREDIBILITY ((8)/(7))*(.5)	17.9%
(10) MINIMUM CREDIBILITY	25.0%

NORTH DAKOTA
BASIC GROUP II STATEWIDE CREDIBILITY CALCULATION

(1) FULL CREDIBILITY CLAIMS STANDARD	30,000
(2) MULTISTATE TEN YEAR RATIO OF EARNED RISKS TO CLAIMS	146.292
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,388,760
(4) TEN YEAR STATEWIDE EARNED RISKS	161,807
(5) TEN YEAR AGGREGATE LOSS COSTS - ISO ONLY	53,682,543
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	331.769
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	1,456,054,516
8) 10 yr. AGGREGATE LOSS COSTS - ISO/ISS/NISS	90,275,543
(9) STATEWIDE CREDIBILITY ((8)/(7))**(.5)	24.9%
(10) MINIMUM CREDIBILITY	25.0%

NORTH DAKOTA
SPECIAL CAUSES OF LOSS STATEWIDE CREDIBILITY CALCULATION

(1) FULL CREDIBILITY CLAIMS STANDARD	25,000
(2) MULTISTATE FIVE YEAR RATIO OF EARNED RISKS TO CLAIMS	184,532
(3) FULL CREDIBILITY EARNED RISKS STANDARD (1)X(2)	4,613,300
(4) FIVE YEAR STATEWIDE EARNED RISKS	85,420
(5) FIVE YEAR AGGREGATE LOSS COSTS - ISO ONLY	9,644,354
(6) AGGREGATE LOSS COSTS PER EARNED RISK (5)/(4)	112.905
(7) AGGREGATE LOSS COSTS FOR 100% CREDIBILITY (3) X (6)	520,864,637
(8) FIVE YEAR AGGREGATE LOSS COSTS - ISO/ISS/NISS	17,933,472
(9) STATEWIDE CREDIBILITY ((8)/(7))**(.5)	18.6%
(10) MINIMUM CREDIBILITY	25.0%

NORTH DAKOTA
CALCULATION OF INDICATED BASIC GROUP II LOSS COSTS

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			ACCIDENT YEAR			STATEWIDE	INDICATED		INDICATED	INDICATED
			ENDING 12/31/17		CURRENT	MONOLINE	NON-HURR.	HURRICANE	TOTAL	PERCENT
		BG II AGG.		CURRENT	NON-HURR	NON-HURR.	LOSS COST	MODELED	LOSS COST	CHANGE
TERRITORY	COVERAGE	SYMBOL	LOSS COSTS	LOSS COST	LOSS COST	CHANGE	(3) * (4)	LOSS COST	(5) + (6)	(7)/(2) - 1
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EXHIBIT C25 DOES NOT EXIST FOR NON-HURRICANE STATES

BASIC GROUP I RATING GROUP DEFINITIONSTHE FOLLOWING CSP CLASSES COMPRISE THE BASIC GROUP I RATING GROUPS01 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

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONSCATEGORY 01 - BUILDING AND TIME ELEMENT COVERAGECATEGORY 02 - APARTMENT AND CONDOMINIUM CONTENTS COVERAGECATEGORY 03 - OFFICE CONTENTS COVERAGECATEGORIES 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.

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

SPECIAL CAUSES OF LOSS CATEGORY DEFINITIONSCATEGORY 11 - INDUSTRIAL & PROCESSING CONTENTS COVERAGE (LOW)

Occupancy classes not listed in Category 10

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.

NORTH DAKOTA

BASIC GROUP I

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
_____	_____	_____	_____
2014	5,153,885	3,206,067	0.622
2015	6,298,547	5,413,803	0.860
2016	6,327,943	5,747,366	0.908
2017	6,027,728	5,979,631	0.992
2018	5,950,286	2,119,574	0.356

NORTH DAKOTA

BASIC GROUP II

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL ** TOTAL UNADJUSTED	EXPERIENCE RATIO
		INCURRED LOSSES	
2009	4,380,683	4,381,172	1.000
2010	4,634,903	3,801,118	0.820
2011	4,832,802	3,428,042	0.709
2012	5,592,125	1,128,982	0.202
2013	6,206,757	4,018,222	0.647
2014	7,011,277	5,049,362	0.720
2015	8,030,288	6,293,987	0.784
2016	8,164,742	19,466,255	2.384
2017	8,187,902	2,826,698	0.345
2018	8,189,365	4,658,548	0.569

NORTH DAKOTA

SPECIAL CAUSES OF LOSS

UNADJUSTED AGGREGATE LOSS COSTS, LOSSES, AND EXPERIENCE RATIOS

YEAR	TOTAL UNADJUSTED LOSS COSTS	TOTAL UNADJUSTED INCURRED LOSSES	EXPERIENCE RATIO
_____	_____	_____	_____
2014	2,335,349	1,876,814	0.804
2015	2,788,547	1,813,772	0.650
2016	2,845,682	2,652,584	0.932
2017	2,841,425	5,891,104	2.073
2018	2,919,411	5,397,461	1.849

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

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

NOTE: All dollar amounts are displayed in thousands.

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

NORTH DAKOTA
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		Loss Cost
AA	Buildings	.100.105
	Contents	.119.125
A	Buildings	.112.118
	Contents	.130.137
AB	Buildings	.144.152
	Contents	.158.167
B	Buildings	.172.181
	Contents	.176.186

72. CAUSES OF LOSS – SPECIAL FORM

E.2. Rating Procedure – Property Damage – Other than Builders' Risk**b.(1) Building Coverage – Loss Cost: ~~048,051~~****c.(2) Personal Property Coverage – Loss Costs**

Occupancy Category	Loss Cost
Residential Apartments and Condominiums	242,224
Offices	086,092
Mercantile – High	142,119
Mercantile – Medium	095,101
Mercantile – Low	076,081
Motels and Hotels	054,057
Institutional – High	058,061
Institutional – Low	036,038
Industrial and Processing – High	148,125
Industrial and Processing – Low	086,091
Service – High	100,106
Service – Low	077,082
Contractors	125,133
Territory (County)	Territorial Multiplier
Entire State	1.000

DIVISION FIVE
FIRE AND ALLIED LINES
LOSS COST PAGES

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)	0.086	0.076	0.067	0.054	0.051
	Contents (2)	0.086	0.076	0.073	0.064	0.059
0075	Building (1)	0.086	0.076	0.067	0.054	0.051
	Contents (2)	0.086	0.076	0.073	0.064	0.059
0076	Building (1)	0.086	0.076	0.067	0.054	0.051
	Contents (2)	0.086	0.076	0.073	0.064	0.059
0077	Building (1)	0.076	0.070	0.061	0.050	0.046
	Contents (2)	0.081	0.073	0.067	0.060	0.057
0078	Building (1)	0.076	0.070	0.061	0.050	0.046
	Contents (2)	0.081	0.073	0.067	0.060	0.057
0079	Building (1)	0.076	0.070	0.061	0.050	0.046
	Contents (2)	0.081	0.073	0.067	0.060	0.057
0196	Building (1)	0.052	0.046	0.042	0.034	0.032
	Contents (2)	0.059	0.052	0.049	0.042	0.041
0197	Building (1)	0.052	0.046	0.042	0.034	0.032
	Contents (2)	0.059	0.052	0.049	0.042	0.041
0198	Building (1)	0.052	0.046	0.042	0.034	0.032
	Contents (2)	0.059	0.052	0.049	0.042	0.041
0311	Building (1)	0.174	0.156	0.138	0.113	0.104
	Contents (2)	0.196	0.177	0.166	0.148	0.137
0312	Building (1)	0.174	0.156	0.138	0.113	0.104
	Contents (2)	0.196	0.177	0.166	0.148	0.137
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

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)	0.174	0.156	0.138	0.113	0.104
	Contents (2)	0.196	0.177	0.166	0.148	0.137
0321	Building (1)	0.267	0.241	0.212	0.174	0.159
	Contents (2)					
	A	0.397	0.357	0.339	0.298	0.278
	B&C	0.465	0.418	0.395	0.348	0.325
0322	Building (1)	0.267	0.241	0.212	0.174	0.159
	Contents (2)					
	A	0.397	0.357	0.339	0.298	0.278
	B&C	0.465	0.418	0.395	0.348	0.325
0323	Building (1)	0.267	0.241	0.212	0.174	0.159
	Contents (2)					
	A	0.397	0.357	0.339	0.298	0.278
	B&C	0.465	0.418	0.395	0.348	0.325
0331	Building (1)	0.097	0.087	0.077	0.063	0.058
	Contents (2)	0.086	0.077	0.073	0.064	0.058
0332	Building (1)	0.097	0.087	0.077	0.063	0.058
	Contents (2)	0.086	0.077	0.073	0.064	0.058
0333	Building (1)	0.097	0.087	0.077	0.063	0.058
	Contents (2)	0.086	0.077	0.073	0.064	0.058
Territory				Territorial Multiplier		
Entire State (North Dakota)				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)	0.151	0.135	0.121	0.099	0.090
	Contents (2)					
	A	0.171	0.155	0.146	0.128	0.119
	B&C	0.201	0.180	0.171	0.151	0.140
0342	Building (1)	0.151	0.135	0.121	0.099	0.090
	Contents (2)					
	A	0.171	0.155	0.146	0.128	0.119
	B&C	0.201	0.180	0.171	0.151	0.140
0343	Building (1)	0.151	0.135	0.121	0.099	0.090
	Contents (2)					
	A	0.171	0.155	0.146	0.128	0.119
	B&C	0.201	0.180	0.171	0.151	0.140
0511	Building (1)	0.120	0.108	0.097	0.078	0.073
	Contents (2)	0.153	0.138	0.130	0.115	0.106
0512	Building (1)	0.115	0.103	0.091	0.075	0.068
	Contents (2)	0.137	0.123	0.116	0.103	0.095
0520	Building (1)	0.144	0.129	0.115	0.093	0.085
	Contents (2)	0.198	0.179	0.170	0.149	0.139
0531	Building (1)	0.122	0.109	0.098	0.078	0.073
	Contents (2)	0.163	0.145	0.137	0.122	0.114
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

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)	0.185	0.166	0.149	0.120	0.113
	Contents (2)	0.198	0.179	0.170	0.149	0.139
0533	Building (1)	0.145	0.131	0.117	0.094	0.088
	Contents (2)	0.161	0.145	0.135	0.120	0.113
0534	Building (1)	0.204	0.183	0.164	0.132	0.123
	Contents (2)	0.166	0.150	0.143	0.126	0.118
0541	Building (1)	0.449	0.405	0.360	0.292	0.272
	Contents (2)	0.482	0.433	0.409	0.360	0.335
0545	Building (1)	0.530	0.477	0.425	0.345	0.319
	Contents (2)	0.599	0.537	0.509	0.449	0.416
0550	Building (1)	0.109	0.099	0.088	0.072	0.066
	Contents (2)	0.165	0.149	0.140	0.124	0.116
0561	Building (1)	0.116	0.104	0.092	0.075	0.070
	Contents (2)	0.165	0.149	0.140	0.124	0.116
0562	Building (1)	0.131	0.118	0.105	0.085	0.078
	Contents (2)	0.183	0.165	0.156	0.138	0.129
0563	Building (1)	0.130	0.117	0.104	0.085	0.078
	Contents (2)	0.137	0.123	0.116	0.103	0.095
0564	Building (1)	0.179	0.163	0.144	0.117	0.106
	Contents (2)	0.241	0.217	0.205	0.181	0.169
Territory					Territorial Multiplier	
Entire State (North Dakota)					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)	0.119	0.106	0.095	0.078	0.072
	Contents (2)	0.135	0.120	0.114	0.101	0.094
0566	Building (1)	0.135	0.122	0.108	0.088	0.080
	Contents (2)	0.181	0.164	0.153	0.135	0.127
0567	Building (1)	0.120	0.108	0.097	0.078	0.073
	Contents (2)	0.153	0.138	0.130	0.115	0.106
0570	Building (1)	0.120	0.108	0.097	0.078	0.073
	Contents (2)	0.163	0.145	0.137	0.122	0.114
0580	Building (1)	0.120	0.108	0.097	0.078	0.073
	Contents (2)	0.169	0.152	0.145	0.127	0.119
0581	Building (1)	0.127	0.115	0.103	0.084	0.077
	Contents (2)					
	A	0.163	0.145	0.137	0.122	0.114
	B	0.196	0.176	0.166	0.148	0.138
0582	Building (1)	0.140	0.126	0.114	0.092	0.085
	Contents (2)					
	A	0.145	0.130	0.123	0.106	0.101
	B	0.176	0.158	0.150	0.132	0.123
	C	0.161	0.145	0.135	0.120	0.113
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

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)	0.056	0.052	0.044	0.036	0.034
	Contents (2)					
	A	0.063	0.056	0.054	0.046	0.044
	B	0.092	0.083	0.078	0.069	0.064
0702	Building (1)	0.068	0.062	0.055	0.045	0.042
	Contents (2)					
	A	0.081	0.074	0.068	0.061	0.056
	B	0.113	0.102	0.096	0.084	0.080
0742	Building (1)	0.395	0.356	0.316	0.257	0.237
	Contents (2)	0.434	0.392	0.370	0.327	0.304
0743	Building (1)	0.395	0.356	0.316	0.257	0.237
	Contents (2)	0.434	0.392	0.370	0.327	0.304
0744	Building (1)	0.395	0.356	0.316	0.257	0.237
	Contents (2)	0.434	0.392	0.370	0.327	0.304
0745	Building (1)	0.171	0.153	0.137	0.111	0.102
	Contents (2)	0.186	0.169	0.159	0.139	0.130
0746	Building (1)	0.171	0.153	0.137	0.111	0.102
	Contents (2)	0.186	0.169	0.159	0.139	0.130
0747	Building (1)	0.171	0.153	0.137	0.111	0.102
	Contents (2)	0.186	0.169	0.159	0.139	0.130
Territory					Territorial Multiplier	
Entire State (North Dakota)					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)	0.150	0.135	0.120	0.098	0.090
	Contents (2)	0.173	0.155	0.147	0.130	0.120
0756	Building (1)	0.061	0.056	0.048	0.040	0.036
	Contents (2)	0.070	0.063	0.059	0.052	0.048
0757	Building (1)	0.066	0.059	0.052	0.043	0.040
	Contents (2)	0.070	0.063	0.059	0.052	0.048
0831	Building (1)	0.051	0.046	0.041	0.034	0.032
	Contents (2)	0.059	0.053	0.050	0.044	0.041
0832	Building (1)	0.066	0.059	0.052	0.043	0.038
	Contents (2)	0.070	0.063	0.059	0.052	0.048
0833	Building (1)	0.056	0.050	0.044	0.035	0.034
	Contents (2)	0.063	0.058	0.056	0.048	0.046
0834	Building (1)	0.088	0.080	0.072	0.058	0.053
	Contents (2)	0.091	0.082	0.078	0.069	0.063
0841	Building (1)	0.091	0.082	0.072	0.059	0.054
	Contents (2)	0.094	0.085	0.081	0.072	0.067
0843	Building (1)	0.046	0.041	0.035	0.029	0.026
	Contents (2)	0.047	0.043	0.041	0.035	0.034
0844	Building (1)	0.061	0.056	0.048	0.040	0.036
	Contents (2)	0.068	0.060	0.058	0.051	0.046
0845	Building (1)	0.040	0.035	0.033	0.026	0.024
	Contents (2)	0.046	0.041	0.040	0.034	0.033
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

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)	0.084	0.074	0.068	0.056	0.051
	Contents (2)	0.083	0.073	0.072	0.062	0.058
0851	Building (1)	0.043	0.039	0.035	0.028	0.027
	Contents (2)	0.052	0.044	0.043	0.038	0.035
0852	Building (1)	0.044	0.042	0.036	0.030	0.028
	Contents (2)	0.053	0.048	0.044	0.039	0.036
0900	Building (1)	0.062	0.055	0.050	0.040	0.038
	Contents (2)	0.066	0.059	0.055	0.049	0.046
0911	Building (1)	0.240	0.218	0.192	0.157	0.145
	Contents (2)	0.284	0.257	0.241	0.213	0.200
0912	Building (1)	0.319	0.287	0.256	0.208	0.190
	Contents (2)	0.392	0.353	0.335	0.295	0.274
0913	Building (1)	0.210	0.188	0.167	0.136	0.125
	Contents (2)	0.246	0.221	0.210	0.183	0.171
0921	Building (1)	0.125	0.113	0.102	0.081	0.075
	Contents (2)	0.150	0.134	0.127	0.112	0.105
0922	Building (1)	0.139	0.125	0.112	0.091	0.083
	Contents (2)	0.170	0.153	0.145	0.127	0.118
0923	Building (1)	0.093	0.083	0.074	0.060	0.054
	Contents (2)	0.100	0.091	0.085	0.074	0.069
0931	Building (1)	0.103	0.092	0.082	0.066	0.062
	Contents (2)	0.120	0.108	0.103	0.091	0.084
Territory					Territorial Multiplier	
Entire State (North Dakota)					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)	0.147	0.132	0.118	0.095	0.088
	Contents (2)	0.178	0.160	0.151	0.133	0.125
0933	Building (1)	0.124	0.112	0.099	0.081	0.075
	Contents (2)	0.156	0.142	0.132	0.118	0.109
0934	Building (1)	0.160	0.145	0.130	0.104	0.097
	Contents (2)	0.191	0.172	0.161	0.143	0.133
0940	Building (1)	0.078	0.070	0.063	0.051	0.047
	Contents (2)	0.097	0.087	0.082	0.073	0.068
0951	Building (1)	0.175	0.157	0.140	0.114	0.105
	Contents (2)	0.192	0.174	0.164	0.145	0.135
0952	Building (1)	0.059	0.053	0.047	0.038	0.035
	Contents (2)	0.084	0.076	0.072	0.063	0.059
1000	Building (1)	0.054	0.049	0.044	0.035	0.033
	Contents (2)	0.048	0.043	0.042	0.036	0.034
1051	Building (1)	0.034	0.031	0.028	0.022	0.020
	Contents (2)	0.044	0.040	0.038	0.033	0.031
1052	Building (1)	0.078	0.070	0.062	0.050	0.047
	Contents (2)	0.088	0.079	0.076	0.066	0.062
1070	Building (1)	0.054	0.048	0.043	0.034	0.032
	Contents (2)	0.063	0.056	0.054	0.048	0.044
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

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)	0.156	0.140	0.125	0.102	0.094
1211	Building (1)	0.137	0.124	0.110	0.090	0.082
	Contents (2)	0.162	0.146	0.137	0.122	0.114
1212	Building (1)	0.109	0.099	0.088	0.071	0.067
	Contents (2)	0.134	0.120	0.114	0.101	0.095
1213	Building (1)	0.096	0.087	0.077	0.064	0.058
	Contents (2)	0.129	0.116	0.109	0.096	0.090
1220	Building (1)	0.116	0.104	0.092	0.075	0.068
	Contents (2)	0.141	0.126	0.119	0.106	0.099
1230	Building (1)	0.100	0.090	0.080	0.066	0.059
	Contents (2)	0.137	0.123	0.116	0.102	0.096
1400	Building (1)	0.298	0.268	0.239	0.194	0.178
	Contents (2)	0.362	0.327	0.308	0.272	0.253
	Yard	0.450		0.046		
1650	Building (1)	0.178	0.159	0.142	0.116	0.106
	Contents (2)	0.225	0.202	0.191	0.168	0.158
	Yard	0.124		0.016		
Territory					Territorial Multiplier	
Entire State (North Dakota)					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)	0.145	0.131	0.116	0.096	0.087
	Contents (2)	0.221	0.198	0.187	0.166	0.155
	Yard	0.122		0.015		
1751	Building (1)	0.092	0.084	0.075	0.059	0.056
	Contents (2)	0.122	0.109	0.104	0.092	0.086
1752	Building (1)	0.088	0.079	0.069	0.057	0.054
	Contents (2)	0.087	0.078	0.075	0.066	0.059
2200	Building (1)	0.268	0.243	0.217	0.176	0.161
	Contents (2)	0.319	0.288	0.270	0.239	0.224
2350	Building (1)	0.172	0.155	0.138	0.112	0.103
	Contents (2)	0.205	0.185	0.172	0.152	0.144
2459	Building (1)	0.112	0.102	0.090	0.073	0.067
	Contents (2)	0.144	0.130	0.123	0.108	0.102
2800	Building (1)	0.222	0.201	0.180	0.146	0.134
	Contents (2)	0.295	0.265	0.249	0.219	0.207
3409	Building (1)	0.278	0.251	0.222	0.180	0.167
	Contents (2)	0.323	0.289	0.274	0.240	0.225
4809	Building (1)	0.214	0.192	0.171	0.138	0.130
	Contents (2)	0.261	0.235	0.219	0.194	0.182
Territory					Territorial Multiplier	
Entire State (North Dakota)					1.000	

NORTH DAKOTA
COMMERCIAL PROPERTY
LOSS COST LEVEL REVIEW
ACTUARIAL ANALYSIS SUPPLEMENT

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

MONOLINE
INDICATIONS

The indicated statewide monoline changes are:

<u>Subline</u>	<u>Current Review</u>	<u>Prior Review</u>
Basic Group I	-8.7%	-3.6%
Basic Group II	+5.4%	+4.2%
Special Causes of Loss	+5.6%	+4.6%
All Coverages Combined	+0.2%	+1.2%

The prior review's indications were not filed. There has been a change in the Implicit Package Modification Factors since the prior review.

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

IMPACT OF LIMIT
OF INSURANCE
(LOI) FACTOR
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-2009-RLC09, Commercial Fire and Allied Lines Loss Cost Revision for the Introduction of Limit of Insurance Curves, will not result in the same loss costs as the procedure described above.

Schedule-rated Loss Costs

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

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

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

<u>Category</u>	<u>Loss Cost Change</u>
01 Buildings	5.5%
02 Apartment and Condominium Contents	5.7%
03 Office Contents	6.4%
04 Mercantile, Motel-Hotel, and Institutional Contents	6.1%
05 Service, Industrial-Processing and Contractors Contents	6.0%
Personal Property (Contents) Excluding Theft	6.1%

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

Limit of Insurance Transition Rule and Public Protection Class Factors

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

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

* Frame, Joisted Masonry and Non-combustible

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

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

DATA QUALITY

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

LOSS
ADJUSTMENT
EXPENSE/LOSS
DEVELOPMENT
FACTORS

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

LOSS TREND
FACTORS

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

External Trend

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

<u>Coverage</u>	<u>Current Review</u>	<u>Prior Review</u>	<u>Change</u>
Buildings	+3.1%	+2.80%	+0.3%
Contents	+2.0%	+1.50%	+0.5%
Time Element	+0.8%	+0.85%	-0.05%

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	0.0%	+0.6%	+2.6%	-0.3%	+0.7%	+2.8%
Basic Group II	0.0%	+0.6%	+2.7%	+0.2%	+0.6%	+2.6%
Special Causes of Loss	+0.3%	-0.6%	+2.6%	+0.2%	0.0%	+2.8%

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	+3.1%	+2.6%	+3.4%	+2.5%	+2.2%	+3.7%
Basic Group II	+3.1%	+2.6%	+3.5%	+3.0%	+2.1%	+3.5%
Special Causes of Loss	+3.4%	+1.4%	+3.4%	+3.0%	+1.5%	+3.7%

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	+1.4%
Basic Group II	+0.2%
Special Causes of Loss	-0.1%

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>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	+2.5%	+1.8%	+0.9%	+2.1%	+1.6%	+0.6%
Basic Group II	+2.3%	+1.7%	+0.9%	+1.9%	+1.4%	+0.6%
Special Causes of Loss	+2.4%	+1.4%	+0.9%	+2.0%	+1.2%	+0.6%

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>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>	<u>Bldg.</u>	<u>Cnts.</u>	<u>TE</u>
Basic Group I	+0.6%	+0.8%	+2.5%	+0.4%	+0.6%	+3.1%
Basic Group II	+0.8%	+0.9%	+2.6%	+1.1%	+0.7%	+2.9%
Special Causes of Loss	+1.0%	+0.0%	+2.5%	+1.0%	+0.3%	+3.1%

BASIC GROUP I

The statewide five year weighted average experience ratio, before credibility weighting, decreased by 17%, from 0.812 in the prior review to 0.674 in the current review. The decrease is due to a lower-than-average experience ratio of 0.325 for 2018 entering the experience period and reflects a 3.3% increase in Implicit Package Modification Factors (IPMF's) since last year's review. The monoline relativity decreased by -2.2%, reflecting the increase in average IPMF's, a higher-than-overall monoline experience of 3.401 for 2013 exiting the experience period, and a lower-than-overall monoline experience of 0.224 for 2018 entering the experience period.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	0.674	0.812	0.830
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.008	1.003	1.005
Coverage Change	0.924	0.955	0.968
Monoline Relativity	0.987	1.009	0.978
Monoline Change	0.913	0.964	0.947

BASIC GROUP II

The statewide ten year weighted average experience ratio, before credibility weighting, increased by 6.8%, from 0.952 in the prior review to 1.017 in the current review. The increase is due to a lower-than-average experience ratio of 0.819 for 2008 exiting the experience period and a 4.5% decrease in average Implicit Package Modification Factors (IPMFs) since last year's review.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.017	0.952	1.068
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.010	1.006	1.004
Coverage Change	1.012	0.993	1.019
Monoline Relativity	1.042	1.052	0.991
Monoline Change	1.054	1.042	1.012

**SPECIAL CAUSES
OF LOSS**

The statewide five year weighted average experience ratio, before credibility weighting, increased by 11.7%, from 0.993 in the prior review to 1.110 in the current review. The increase is due to a higher-than-average experience ratio of 1.183 for 2018 entering the experience period and a 7.1% decrease in average Implicit Package Modification Factors (IPMFs) since last year's review. The monoline relativity decreased by 2.1%, reflecting the decrease in average IPMF's, a higher-than-overall monoline experience of 2.612 for 2013 exiting the experience period, and a lower-than-overall monoline experience of 0.242 for 2018 entering the experience period.

Statewide Loss Cost Level Review

	<u>Current Review</u>	<u>Prior Review</u>	<u>Ratio</u>
Weighted Experience Ratio	1.110	0.993	1.117
Credibility	0.250	0.250	1.000
Expected Experience Ratio	1.007	1.003	1.004
Coverage Change	1.033	1.001	1.032
Monoline Relativity	1.023	1.045	0.979
Monoline Change	1.056	1.046	1.010

**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 12/31/2019.

<u>Date From</u>	<u>Date To</u>	<u>Perils</u>
5/10/91	5/13/91	Wind, Hail, Tornadoes, Flooding
6/27/93	7/3/93	Wind, Hail, Tornadoes, Flooding
7/8/93	7/16/93	Wind, Hail, Tornadoes, Flooding
5/21/95	5/21/95	Wind, Hail
8/18/95	8/18/95	Wind, Hail
5/17/96	5/21/96	Wind, Hail, Tornadoes, Flooding
4/17/97	4/21/97	Flooding
7/1/99	7/5/99	Hail, Wind, Flooding, Tornadoes
6/9/01	6/12/01	Hail, Wind, Flooding, Tornadoes
5/6/05	5/12/05	Flooding, Hail, Tornadoes, Wind
9/20/07	9/21/07	Flooding, Hail, Wind
7/19/08	7/22/08	Flooding, Hail, Tornadoes, Wind
7/8/09	7/10/09	Flooding, Hail, Tornadoes, Wind
5/29/11	6/1/11	Flooding, Hail, Tornadoes, Wind
7/29/11	8/1/11	Flooding, Hail, Wind
6/21/15	6/25/15	Flooding, Hail, Tornadoes, Wind
6/16/16	6/18/16	Flooding, Hail, Wind
6/29/18	7/1/18	Flooding, Tornadoes, Wind
8/6/19	8/6/19	Hail, Tornadoes, Wind
8/25/19	8/26/19	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.
